

MONTGOMERY
COUNTY, MD.

GUIDE FOR
TEACHERS
OF MENTALLY
RETARDED
CHILDREN

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PUBLIC SCHOOLS
MONTGOMERY COUNTY, MARYLAND

Guide For Teachers

of

MENTALLY RETARDED CHILDREN
BRAIN-INJURED CHILDREN

Montgomery County, Md. Board of Education.

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Prepared by Dr. Louis E. Garbarino, Superintendent of Schools, Montgomery County, Maryland, 1955, pp. 2 + 3

FOREWORD

An educational program is a growing program. It must grow to meet the expanding needs of an increasing population. It must grow to meet the diverse needs within that population. Study and research reveal new knowledge about the ways in which children grow and develop. Experimentation gives us a better understanding of effective means of dealing with abnormalities in this growth and development. A growing educational program makes use of the findings of study, research, and experimentation as it seeks to achieve the maximum development for every child in those knowledges, skills, and attitudes which our present culture deems necessary for successful living.

Each culture has within its population a deviate group whose needs require special attention. Educators interested in the retarded child endeavor to build a curriculum that might accomplish for this group what the regular curriculum does for the normal child.

This special curriculum must be different for three reasons:-

1. "The 'normal' curriculum does not include all the content necessary to insure adult independence, since it is assumed that the normal child can learn much just by living.
2. The deviate group fails to reach those years or grades wherein such content may ordinarily be taught.
3. The content ordinarily taught in conjunction with lower academic proficiencies does not produce complete individuals." *

The special curriculum must strive to develop within this deviate group four major competencies which are important in all curriculums:-

1. "Physical competency - the ability to survive and satisfy body needs.
2. Social competency - the ability to live with others, to share, to contribute, to conform to group requirements.
3. Vocational competency - the ability to perform work for which adequate wages can be paid to enable the individual to maintain existence.
4. Academic competency - the ability to read, write, and handle number concepts." *

* Rosenzweig, Dr. Louis E., Curriculum For Trainable Mentally Retarded Children, 1955, pp 2 - 3.

Severely retarded children may develop competency mainly in the first two areas; many retarded children can become proficient in all four areas. All retarded children can profit from training.

Forbes H. Norris

Forbes H. Norris
Superintendent

August 1955

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This guide for teachers was prepared to facilitate the development of the four competencies for the mentally retarded and brain-injured child. It is a part of the total educational program of growth. It is based on requests made by elementary teachers for suggested procedures and techniques in meeting the needs of these children in their classes. The work was done by a committee, under the general direction of Thomas W. Pyle, Assistant Superintendent of Schools in charge of curriculum, and Mirian T. Tannhauser, Supervisor of Special Education.

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USE OF THE GUIDE

Children for whom this guide is intended:

It is proposed that this guide be used as a course of study for retarded and brain-injured children in special education classes located in the elementary schools in Montgomery County, Maryland.

The mentally retarded child is one whose rate of mental development is at a slower than normal pace, whose mental maturity at the age of sixteen will be eight to twelve years, and whose achievement in tool subjects at the age of eighteen will be three or more years retarded. With adequate social and occupational training in a developmental curriculum, based on essential life needs, he may be expected to become socially and occupationally independent within varying limits of supervision. Vocationally he may succeed at unskilled and semi-skilled work. His I. Q. based on verbal intelligence tests will range from 55 to 60 to 75 or 80. Usually not more than two percent of the total school population will fall within this category.

The brain-injured child is one who, because of damage to the brain, finds it impossible to follow stimuli with the usual response, cannot sort out, evaluate, and accept stimuli in the usual way, nor can he exercise ordinary control of impulses. He may be restless, hyperactive, easily distracted, always disturbing someone, constantly toying with things, easily excited or perseverating. An injury to a child's brain before, during, or after birth may not only affect the way and the rate at which he learns; it may also affect his behavior. Sometimes the behavior deviation is the only indication of brain-injury.

Helps for the teacher provided in this guide:

Subject matter which is geared to supplying the retarded child that information which is needed to meet his life needs is presented on two levels:

1. The Pre-Academic level is written in the form of study units to be used by teachers who have children not yet ready to learn to read.
2. The Academic level is written in the form of study units to be used by teachers who have children who have progressed to instructional levels in reading.

Instructional aids for developing language arts skills will be found in the language arts section. Language Arts and Arithmetic Skills Sequences are included in this bulletin.

In the special section, The Brain-Injured Child, diagrams and explanations have been used to give teachers a better understanding of the functions of the brain and the educational implications of brain injury.

An additional section gives specific suggestions as to special teaching techniques to be used by teachers working with brain-injured children in the language and arithmetic areas.

Suggestions for using the units of study:

The material in each unit is compiled so that the sub-problems in each of these major areas can be followed in sequence. It is assumed that an elementary special class will have covered all of the sub-problems in the areas of the pre-academic course of study by the time they are ready for reading instruction. The children who will go to Junior High School should have covered all of the sub-problems of the areas included in the academic course of study by the time they leave elementary school.

It is hoped that each teacher will feel free to choose problems for development that are of interest and significance to his group. However, it is expected that the choice of other problems will implement or add to, rather than eliminate the understandings included in the course of study.

If a teacher desires to develop units of study not included, it is suggested that this material be made available so that it may be evaluated for use in future courses of study.

The major problems indicate a broad area for study. The sub-problems state the specific phases of the major area which are considered important.

The Understandings are guides for the teacher, representing the ultimate goals of learning which the child should attain in studying the problems.

Experiences have been suggested from which the teacher may select meaningful activities to accomplish these goals.

A group of Suggested Techniques follows the units of study and provides various detailed directions for the teacher to use in developing an activity. The Roman numerals listed parallel to the experiences in the units of study are cross-referenced to the Suggested Techniques.

THE EXCEPTIONAL PROBLEMS OF THE MENTALLY RETARDED CHILD

We are all familiar with the usual problems in child development which we must take into account as we strive to formulate an instructional program for the so-called normal child. But, in addition to these problems there are many exceptional problems which we must consider as we plan for the mentally retarded child. These are the problems which prompt us to choose with greater prudence the content for a course of study that is to provide a slow learner, within the same or lesser number of school years, with all of the understandings essential to his success as a contributing member of society, within his scope of ability. These exceptional problems are listed in order to guide our thinking as we proceed in interpreting basic needs and possibilities.

Coupled with the problems are implications for teaching and curriculum planning. The teacher of mentally retarded children may find it helpful in terms of specific aids and problems.

Lacks drive
ambition,
stamina

Frequent motivation, assign one small task at a time. Give the task dignity and worth. Make certain that success is possible, expected and commended.

Limited ability
to judge, organize or evaluate

Establish a simple pattern for judging cause and effect. Read a part of a story; have them guess the ending. Make lists to show the chronological order of events in stories, trips, etc. Which event is most important? Why? Dramatize outcomes of typical student problems. Evaluate different outcomes.

Provide many opportunities for children, under guidance, to evaluate work, materials, etc.

Limited ability
to use past
experiences to
solve problems

Assume nothing as to child's experiences. Proceed slowly from known to unknown and provide many experiences which provide for learning skills in the situations in which they are to be used.

Reaction to
impulses tends
to be slow

Be patient. Expect no more than the child can give. Provide a routine pattern of activity. Music often sets the stage. Limit the need for direct response to direct questions.

Easily distracted by
extraneous stimuli

Be alert to what may distract a child and try to eliminate the cause. Provide a quiet place for the distracted child. Plan your work well. Have necessary materials ready. Give them out only as they are to be used. Avoid giving directions to large groups. Show a few children at a time.

May have difficulty discerning fine prints or details

Brain-injured child may focus on detail and lose the whole

Liability to illness and physical defect greater than usual

Language ability is frequently inadequate

Speech defects are not unusual

Limited ability to plan ahead and foresee outcomes

Does not seem to follow directions in logical order

Requires longer learning period

A brain injured child may be distracted by a detail and never be aware of the whole. Other retarded children profit from having the whole reduced to its most basic and fundamental parts. These parts must be learned through frequent recurring experiences as: "Find the numbers that show what size it is."

'Break' the focus by presenting a new activity with strong interest or 'pull'. Use color or difference in textures to focus attention on important whole.

Be alert for symptoms of illness. Familiarize yourself with the educational implications of specific physical defects in your class. Guide with a firm, gentle approach and without pity.

Provide as many opportunities as possible for language development activities. There are many experiences which provide excellent background material for 'time to talk'. Set an example, using simple, correct speech which the children may imitate.

Learn some of the simple speech correction techniques and use them with the children. Play speech games, recite poetry for certain sounds. Keep all the children aware of good speech habits and work together to help each other.

Keep an activity calendar. Guide children in planning ahead for special events and projects. Keep projects on a short-term basis so the goal is not out of sight.

Give directions simply - in two-step sequence. Increase the number as the child gains in retentive ability. Always give directions in logical order, so as to receive a sequential response. Allow the child to fulfill the first direction before giving the next. Make lists or directional charts and encourage students to check back to see what comes next.

Never assume that a skill has been learned until the child uses it independently. Plan a variety of experience in which a skill or understanding recurs. Remember that learning

disabilities and mental retardation require intensive teaching on a long range, slow-motion basis.

Must be taught simple learning procedure

Show the children what they are to learn; help them to do what you show them; have them tell you what they did; tell them what they learned; then have them show someone else how to do what they learned.

Tends to repeat errors

Since he learns from repetition and responds in a pattern that has become habit, it is very hard for the mentally retarded child to profit from a mistake and correct the error. Be sure that he can do what he is given to do and never give him a chance to do it wrong. Show, watch, help. Try to foresee and prevent mistakes. Establish the pattern without error.

Tends to forsake a project before it is completed

In the beginning choose projects with short-term attainable goals. Set up one goal at a time. Set standards that are not too hard but can be attained. Establish routine patterns of work. Give a bit of extra help before the child becomes frustrated.

Scope of imagination largely confined to here and now in familial retardation

He misses the subtle point of a joke; sees cause and effect in terms of own experience; enumerates happenings and responds to things rather than ideas. Frequent use of inference questions and guessing the ending of the story are helpful techniques.

Is a creature of habit

Establish an orderly, pleasant pattern of procedure. Set reasonable standards for conforming. Prepare and practice in advance. Help him to be able to "do it without thinking."

Limited ability to gain and utilize concepts

Like a small portable radio their "pick up" is limited. Many stimuli do not register. Essential concepts must be pointed out, emphasized, and repeated frequently.

Each skill should be taught by many recurring experiences in the setting in which it is to be used.

Personality extremes require unusual guidance

The child may reach the threshold of frustrations more easily because of his limited abilities. He responds to therapy more slowly because of his retardation. Constant channeling of feelings toward legitimate expressions is essential. Many visual aids are helpful in meeting this problem.

..... SO YOU HAVE A "SLOW LEARNER"!

You may be an elementary teacher, a science teacher, a history or a gym teacher. You have prepared yourself for this job. You know about adjusting to individual differences. You know about elementary procedure, science, history, or gym; but do you know about slow learners? Do you have slow learners in your class? Oh, yes..... you have many children who are learning slowly; but, technically, do you have slow learners?

Socially handi-
capped and
educationally
retarded.

Perhaps the child is socially handicapped and educationally retarded. If he comes from the wrong side of the tracks, hasn't had his orange juice, has been sick a lot, has just moved into the country, or has been moving about, maybe he isn't really a slow learner. Give him many experiences as your other children have had; do a lot of readiness work; arrange for remedial instruction, and correct all remediable handicaps. If he snaps out of it, your problem is solved.

Socially mal-
adjusted and
emotionally
disturbed

The child may be socially maladjusted and emotionally disturbed. If he's too aggressive, too retiring, or too demanding or if he is tense, anti-social, or afraid, arrange with your principal, personnel worker or nurse to help you look into his background and home environment. Once confidence has been established, minor adjustments or psychological help may solve the problem. If psychotherapy is indicated, encourage his parents to follow through and ask for professional help with your classroom techniques.

Physically
handicapped
child

You may have a physically handicapped child. Maybe the child can't hear what you say or see what is written on the board or chart. Maybe he has a physical defect that the family physician or school doctor can correct. Maybe he needs help to accept a handicap which cannot be corrected; you may be able to make seating or instructional adjustments to minimize the handicap. He may be embarrassed because he is physically unable to skip or play like the other children.

Special learning
disabilities

What if you have a child with special learning disabilities? Some children see words upside down or backwards. Some see blank spaces at intervals and thus may often miss parts of the print. Occasionally a child becomes extremely dizzy when he concentrates on a thing close at hand. A few children can see color but cannot differentiate abstract form in black and white. Maybe the child learns by hearing but can't remember what he sees. He may be able to learn by the feel of things. You may need the help of a reading, audiological, or speech clinic; an orthopedist or a neurologist. When you have determined his learning disability, you can adjust your instructional program so that you can teach him the things he needs to know through the media he uses best.

Brain-injured

A child in your class may be brain-injured. Is the child restless, hyperactive, easily distracted, always disturbing someone, constantly toying with things, easily excited; does he seldom finish a task, want to do more than he ever accomplishes? These reactions may not be due to the new baby in the family or the way his mother handles him. It could be that damage to the brain cells has made it impossible for stimuli to be followed with the usual response, for him to sort out, evaluate, and accept stimuli in the usual way, or for him to exercise ordinary control of impulses. In recent years we have learned that injury to a child's brain before, during, or after birth may not only affect the way and the rate at which he learns; it may also affect his behavior. Sometimes the behavior deviation is the only indication of brain damage. If you are interested, in knowing more about how and why it works, read, Psychopathology and Education of the Brain-Injured Child, by Strauss and Lehtinen, published by Grune and Stratton, N. Y. City, price \$5.00, or available to borrow through Mrs. Tannhauser at the Board office in Rockville. Strauss and Lehtinen also explain learning difficulties due to brain injury and tell you in detail how to teach the tool subjects to these children in spite of the difficulties involved. Many of your clinical deviations will be described by them. (Clinical deviations being the special learning disabilities mentioned in the previous paragraph.)

Slow Learner

Perhaps the child very nearly approaches the normal child in appearance and in social development but is a slow learner. A defective germ plasm, improper prenatal development, brain injury before, during or after birth, or emotional blocks may cause a retardation of mental development. His intellectual development will proceed at a slower-than-normal pace until he has reached his maximum potential level. He can learn to manage his affairs with ordinary prudence; and as an adult will be able to lead an acceptable social life and pursue a semi-skilled or skilled job with limited or no supervision. After determining his mental age, through help from the psychological department, you should learn to think of him in terms of his mental age instead of his chronological age and plan his instruction program along the lines indicated under later topics in this section of the bulletin.

Mentally retarded

You may have a mentally retarded child. If the results of a careful psychological evaluation of the child indicate that his mental retardation exists to a greater extent than that of the slow learner, and if he will need more than the usual amount of supervision in his school, home, social and later occupational endeavors, then your principal and school nurse should refer him to your personnel worker for special class placement. If there is no place available for him and you must continue to give him instruction until he can be placed, you may use the Course of Study for Special Classes to the best of your ability as a guide in planning to meet his needs in the regular classroom. These children can learn to hold semi-skilled and unskilled jobs and be contributing members of society, but they have to be taught specifically and concretely. There is so much to be done

and so little time in which to do it all, you should not be content even for one day to allow the child to sit or waste needed learning time doing puzzles and dusting erasers. (In special cases, Mrs. Tannhauser, in Rockville, may be available for consultation.)

Mentally
deficient

Perhaps there might be a mentally deficient child who is severely retarded to the extent that he will never be able to function in school, at home, or in occupational activities without continuous supervision. He may be able to learn social patterns of behavior, but cannot participate profitably in the regular academic school program. This child's need for economic efficiency may be met through careful sequential guidance in a school situation that is more protective than the regular schools in the system, and which may provide, in effect, a "sheltered workshop" situation for the child. The only reading he may ever be expected to accomplish is recognition of signs which will be in his world for his protection, examples of which may be found in another part of this guide.

Multiple-handi-
capped child

The child may be a multiple-handicapped child. Occasionally we find a child who has so many problems we do not know where to begin. The school psychologist and Montgomery County Department of Health would help you to determine the basic needs of the child and advise you how he may be helped.

If he is a slow learner, or mentally retarded what shall you teach him? With the help of the school psychologist, the pupil personnel worker, the school nurse, and the principal you have prepared a case study on the child and the diagnosis is mental retardation, or a slow learner. The child probably has a mental age of as many as three years less than his chronological age. Now what?

Determining
skills

What does he know already? The child should take the achievement tests given by your school. You should, at least, have a current score in reading or reading readiness, arithmetic, and language. If current scores on these tests are already available, you should re-examine the score sheets and the tests if possible. These scores will determine the functional level of the child in these areas in terms of grade standards. It will also indicate the strengths and weaknesses within a given area. List the general sub-areas in which the child needs help. In addition to this, you need to know more specifically the exact concepts and understandings in each area which the child knows and can use independently. The Special Class Course of Study has a skill sequence for language arts and one for arithmetic that will be helpful to you. The Special Class teachers keep a record of each skill mastered by each child. This is too big a job to do for a regular-sized class; but you may secure copies of the sequences from Mrs. Tannhauser in Rockville, and check them for your slow children. With the mental age of the child in mind refer to the skill sequence in the Special Class Course of Study. See if your child can do all of the things that are expected of other children of a similar mental age. The skills are grouped to show those

which can be expected of a particular mental age. Check on your skill sequence all of the skills your slow child uses independently. Continue to check these as he gains new skills. Determine the skills for his mental age which he does not know. Provide experiences in your class-room activities through which he can master these skills.

Normal expectancy

What is the normal expectancy for this child? If you have taken into consideration all of the problems and potentialities of your slow child, as you checked his score sheet against skills expected for his mental age, you are beginning to realize how well he measures up to what is a normal expectancy for him. In addition to this, you may use the Academic Expectancy Chart in the Special Class Course of Study as a second guide, if your child's I. Q. is 75 or below. Find your child's chronological age in the first column from top to bottom. There is a two-way variance there which you must take into consideration. With your child's chronological age located in the first column of the chart, follow that line across until you are directly below your child's I.Q. as indicated at the top of the chart. There will be three sub-columns under the I.Q.: M.A. (Mental Age), R.G. (reading grade), and A.G. (arithmetic grade). This, then, will show the mental age of your child and the reading and arithmetic grade level at which he should be able to function. This chart was devised by the Research Department of N.Y. City on the basis of a ten year study. The grade level expectancies were determined by the Metropolitan Achievement Test. Your child will probably score higher than is indicated on the chart. The reason is obvious: Even though the child may be better in arithmetic, he cannot score higher on arithmetic than he does in reading on these tests, because he has to read the problems. There is an additional chart in the Special Class Course of Study which shows the chronological age at which a child with a certain I.Q. should be ready to begin reading and the highest reading grade that you may expect him to achieve at age 16.

The California Mental Maturity test gives an intelligence grade placement in its score. This will be of help in establishing the expected grade placement of a child whose I.Q. is above 75. It gives the expected grade placement of a child in terms of his mental age.

Determining course of study

What part of your course of study meets his needs? Now that you have a better understanding of what your child knows, you are ready to examine your course of study and the other available educational bulletins in order to select the understandings which will meet this child's needs. You will not want to give him just the easy part of the program. It would be extremely unfair for a child to go through school getting little dabs of "easiness" here and there. You cannot be content to allow the child to "learn what he can" of the program. This would never add up to a total developmental program designed to meet all of his basic needs. If meeting his basic needs in a developmental way is your aim, you must choose from your course of study the understandings which are essential, realistic, practical and functional. If your class

Understanding Course of Study for Special Classes

Could you profit from a better understanding of the course of study used by Special Classes?

All of the children in a Special Class are probably slow learners and mentally retarded. Many of them are mentally deficient. They need even more help in order to gain even more basic understandings. The Special Class teachers are working together at this job of choosing essentials. It isn't an easy task. You may even question whether or not it is a purely democratic procedure. They are convinced that it is more democratic to give every child the same opportunity to learn what he can use than it is to give every child the same chance to learn the same thing. Someone must make the choice. The tentative Course of Study for the Special Classes is the result of an initial effort to make this choice. The guide for teachers of mentally retarded children in the junior high school is the result of further thinking along these lines. Special Education teachers are working with these guides, evaluating them and contributing their ideas in a continuous effort to find the most suitable adaptations for these children. A slow learning child in a regular class should be a part of every class enterprise. The problems and plans of the class should incorporate his problems and his contribution. Your problem is different from that of the Special Class teacher in scope. The range of abilities in her class may be as great as the range in your class; while her goals are the same as yours. But you are adapting a curriculum which must meet the needs of all children while she is evolving a curriculum planned specifically for slow learners. Maybe you can help each other.

Determining understandings

How are you going to get the child to learn what you have decided he needs to know? To learn is to build a store of content. To build, one must have tools. The child's tools are the skills, understandings and attitudes that he uses independently. He uses these tools as he builds his store of content. As his store of content increases, he finds more tools at his demand. The point more specifically stated is that a child cannot master a new concept unless he has all of the understandings which are prerequisites of the concept. A child cannot conceive of a yard of distance if his only understanding of a yard is a place in which to play. This idea all teachers understand, but in teaching slow learners it is the essence of all planning. Be sure the child has every tool he needs for the job before you give him the job to do. Be sure he has all of the understandings that are prerequisites of a concept before you present the concept. Slow learners lack the abstract ability needed to fill in the gaps. They may, however, have devised techniques of hiding these gaps. If they are aggressive they may say, "I'm not going to," or, "I don't want to"; if they are docile, they may say, "Yes," very sweetly without the vaguest idea of what you are saying. First of all, then, in order to teach a slow learning child, you must discover specifically what skills, understandings, and attitudes he has for independent use. The skill sequences and score sheets are one device for meeting this problem.

Developing skills
in sequential
order

What comes next? If a child has learned to multiply with one digit, the next step, we might suppose, would be to teach him to multiply with two digits. But, since most of us agree that teaching skills, as such, in sequential order is not our primary aim, "What comes next?" is not always a simple thing to see. The child's problems may lead you next to such a question as, "How do I know when it's time for my speech class?" Sooner or later, however, he will need to multiply again, and when he does you will need to repeat the process of multiplying with one digit. You will not assume that the slow learner knows the one digit process unless he can use it independently as a tool in solving a practical problem, which has significance to him in terms of his life needs. Only after he can make a practical application of this skill, do you progress to the next skill, or the process of multiplying with two digits. It is important that the skills to be learned be approached in sequential order and great care must be taken in order that you do not skip a step. Content is the thing you want the child to get, and the skills are the tools that will help him to get it. In order to decide what comes next, you must take into consideration many things.

1. The skills, understandings, and attitudes with which the child has to work. (His progress chart, based on skill sequence).
2. The total picture of the items, facts, understandings, and skills which you have justified in terms of his life needs. (His course of study).
3. The problem at hand which has immediate meaning to him. (A personal or class need, your implementation.)
4. The skills or understandings needed to meet this problem.
5. His level of achievement in each of the skills and understandings needed to meet the problem (as in the example, the ability to multiply with one digit but not with two.)

When the next step or problem is decided upon, you must then provide many opportunities for experiences in which he can find the answer to his problem by using his store of independent skills. But here you point out that further advancement in this skill would have made the solving of his problem easier for him. Take the first small step toward the advancement of the skill and drill on it as much as is necessary to make it one of the tools which he may later use independently. Now test your new tool in practical experiences. When the child can use the skill independently as a tool to solve a meaningful problem, he is ready again for the next step.

Forming a
developmental
sequence of
learning

Can you break down the processes which the slow learning child must learn into a developmental sequence of learning? A slow learning child must be taught many processes which the normal child seems to learn quite casually. Adults living in a world of abstract thinking tend to regard a process as an entity. A slow learning child must be taught each small part of a total process in a concrete way. Only when he has mastered the integral parts must he be confronted with the necessity of completing the entire function independently. We may say to a child, "Go and put on your coat." We think of putting on one's coat as a simple process. Actually it involves a complexity of understandings: "Which coat is mine?" "How do I pick it up?" "How do I get it around my shoulders?" "How do I get my arms through the right sleeve?" "How do I find which button I button first?" "How do I find the right buttonhole for it?" "How do I get the button through the buttonhole?" "Which button do I do next?" and so on. The normal child actually goes through the same process, but he learns it all so fast that a teacher is seldom confronted with the need to teach each sub-operation in progressive order. You accept the theory, but in practice does it work? Obviously the child must wear his coat every day regardless of the sub-operation he may be learning. Suppose he knows which coat is his, where it is, and how to hold it, but can't get his arms through: then you appear at the psychological moment to teach the process of getting his arms through. You may not need to say anything at all, but in a friendly manner you show him how it is done. If he is shy and embarrassed, you may even be chatting about pleasantries as you do it, because the chances are you'll have to show him over and over for so long that you'll need a device to keep yourself from getting bored. The point is that you concentrate on teaching only one sub-operation until he has mastered that; the other sub-operations you simply help him through or do for him. At a higher level the same principle holds true. If the problem is to make something with wood, and the child has none of the skills needed to do it, you prepare the first project completely, so that he has in this case only one sub-operation to do, and that the last one. Thus, with one operation completed, he has a successful product. Next time, or as soon as he can manage it, he is taught the last two processes on another project, and so on until he is finally able to do what many people would assume to be the first step, planning his own project. Now, and only now, is he confronted with the process as a whole. This practice is based on good psychological principles of how the slow learner learns. It may mean making many, many wood work project yourself to varying stages of completion, but you'll be learning and so will the child who might otherwise have spoiled the wood and given up. In time, he will be able to choose, to plan, and to complete a simple project independently. His learning should not stop there. Each new project should provide an opportunity for some growth in the extension and development of skill.

Thus you see, for the slow learner, you as the teacher must see the process as a whole. You must learn to break it down into its smallest parts. The slow learning child must be confronted with only one small part at a time which he can master in a reasonably short period. Finally, step by step you prepare him for the entire process. Then and only then should he be confronted with an entire process which he is expected to handle independently. The step by step procedure sounds long, but in actual practice you will find that learning will go so much faster that soon even the slow learner himself will be saying, "Gee, I'm not as slow as I thought I was."

Reading for slow learner

Reading is the slow learner's most difficult problem. What if he isn't interested in the "baby books" he can read? Maybe he doesn't see any point in reading anyway. Many slow learning children have learning difficulties that are due to organic damage or malfunction. How would you like to read if all the words ran together like a flowing stream? In many cases, no one has been able to find out why a child can't read. A good reading clinic is often able to help. Maybe you can be the one to find the missing piece of the puzzle. One teacher referred a child to a specialist who discovered that the child's equilibrium was so disturbed by looking at a thing close at hand that he became quite dizzy. By putting his reading material on a slide and flashing it at room's distance on the board, he was able to learn reading very quickly. Don't be too quick to say it's impossible. It is a challenge to you. Many slow learning children with specific perceptual difficulties or other difficulties do learn to read in their own good time when they have reached the mental maturity which is required for reading. A child with an I.Q. of 76 isn't ready to begin reading until he is chronologically 7.9 years and will have done his best if he achieves 6th grade level by the time he is 16. If the slow learner is doing the best he can, and if we are giving him the proper help at the proper level, there is still the big problem: "What if he isn't interested in the baby books he can read?" There is a way to meet this problem. It is a good way. It is not an easy way, but in the end it is easier than "putting up with" a frustrated child as you continue to frustrate him more and more. The answer is that you prepare your own material, and this is how you do it.

1. Determine the purpose of the material, why and how it is to be used. Is it for presenting social understandings, recording an experience, or reading for pleasure?
2. List all of the facts to be included. Keep in mind the interest and capacity level of the child.
3. Prepare a story including these facts with the social maturity of the child in mind.
4. Make a word list for the child. Use a basic reading series vocabulary or the selected word lists from "A Reading Vocabulary for the Primary Grades" by Gates, included in this bulletin as a guide. List all of the words through the independent reading grade level. Add to this list the nouns and other words which are essential to the text; add any additional words that the child knows.

is studying clothing, it would be more important for the slow learner to gain an understanding and practice of caring for his own clothing properly than for him to spend his time learning the "Life Cycle of a Silk Worm." If the class is studying transportation, it would be more important for him to learn how to get to town and back alone on the bus than for him to gain an understanding of the "Evolution of the Wheel." If housing were the topic, it would be more important for him to learn about the type of houses in his community and the advantages and disadvantages of each, than to make a model of an adobe home, if the purpose of making the model were just to give the child something to do with his hands. Since he must master more social and occupational skills before he is 16 than many children do, in spite of being a slow learner, you as a teacher must begin at once to choose for him the understandings which you can justify in terms of his life needs. We do not attempt to prepare a normal child to be a doctor by the time he is of working age. But we must attempt to prepare a slow learner to be a successful and semi-skilled or skilled worker by the time he reaches that age. It has been proven beyond doubt that it can be done. It is a big job! You must begin by eliminating irrelevant and unrealistic material from his course of study. You must do your part by choosing from your course of study those things which have real value for him, and then providing adequate concrete and realistic experience through which he can learn these essentials.

Does the course of study meet all of his needs? Your course of study presupposes that this child will be in school long enough and progress far enough to gain eventually all the necessary understanding. Your slow learner will not go to college and will probably never achieve an academic reading level above fifth grade, but he can be a successful and contributing member of society. Does your course of study provide for all that should be done for him now? The slow learner has many real problems. How to get along with the child next door may be one; how to go to the store and buy a loaf of bread for mother may be another. Irrespective of courses of study, these are his problems now. These are his immediate needs. You also should provide understandings so that he can meet his needs as an adult member of society. No matter how good your program may be for the average child, it probably is not meeting the exceptional needs of the slow learning child. Obviously, we cannot supplement his program since his potentialities indicate that he will be able to learn less, not more. And so we must leave out many less important things in order to add a few more important things. It cannot be a hit-and-miss, get-what-he-can approach. It must be a different developmental program, planned and pursued in sequential order, which will prepare him for the social and occupational level at which he has the potentiality to function.

5. Rewrite the story; say as nearly as possible the same things you said before, but use only the words in your word list. Use simple sentences. Check and double check for clearness of meaning and simplicity of structure.

6. Read your story to the child. If he is interested, type it using large print type if possible.

7. Use the story in his loose leaf notebook for the purpose it was intended. Stories written for pleasure reading should be nearly one grade level lower than those used for reading and social studies. A slow learning child should not be allowed to encounter more than one unfamiliar word for every 100 running words that he reads freely. New words should be developed in concrete experiences and drill given on them in language development.

8. Other helpful suggestions for developing materials have been developed by the Department of Special Education, Rochester, N. Y. These are included in the bulletin under the title "Suggestions for Preparing Reading Materials."

Excellent sources of help:

- Kirk, Samuel A. : The Teaching of Reading to Slow Learning Children.
Houghton Mifflin Co., Boston. \$2.50
- Featherstone : Teaching the Slow Learner
Bur. of Publications, Teachers College,
Columbia U. N. Y. 95¢
- Kirk and Johnston : Educating the Retarded Child.
Houghton Mifflin Co., Boston, 1951.
\$3.50
- Goldberg, Brumber
and staff : Rochester Occupational Reading Series,
Syracuse University Press, 920 Irving
Avenue, Syracuse 10, N. Y.

Evaluating Progress

From time to time you must evaluate the child's progress. You must keep the check on skill sequences up-to-date. You must constantly re-evaluate the course of study we have chosen for him. You must find ways and means of enriching his program without omitting essentials. You must see his progress in terms of what he has the potentiality to achieve, and you must continue to look ahead and plan specifically and realistically for his future. You should have much information to turn over to his next teacher, so that he doesn't have to lose time while she gets to know him.

"So you have a slow learner"

Now you know what his problems are. You have corrected those that can be corrected, and you are approaching with greater wisdom those that can't be corrected. You have learned what is normal expectancy for this child. You have had practice in choosing the things that meet his needs. You are learning to implement his learning by keeping close check on the tools he has to work with. You have seen the importance of working toward a goal not too far removed that has real meaning to him. You are practicing the technique of breaking down processes into their smallest parts and presenting them first in part and then as a whole. You are making his program realistic and concrete. You have learned to show and not to tell. You are working at the idea of giving him the facts he needs to know on an academic level where he can function. You know what you are doing and where you are going from here. So you have a slow learner so what? Teaching slow learners is fun when they learn!

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THE BRAIN INJURED CHILD

"Special education has emphasized the individual needs of handicapped children. Because of this emphasis, programs have been developed for the orthopedically handicapped children with cardiac disorders, the blind and partially seeing, deaf and hard-of-hearing, the mentally deficient and slow-learning and others. The history of special education reveals that, not only has concern for the handicapped child benefited children with handicaps, but the study and training of these children has resulted in better understanding of all children....

"As scientific advances are made it is to be anticipated that children whose needs have not been known previously will become apparent.... Advancement in neurology, psychiatry, psychology and speech pathology of children, now make it possible for teachers to gain a better understanding of the special needs of the" *....brain-injured child.

"When we deal with brain injury we are dealing with the aftermath of an accident to an organism. In order to understand the effects which result, we must first know something of the organism to which the accident occurred. In recent years scientific research has indicated more and more that this organism operates as a whole, and that we must give increasing attention to the disturbances which are a product of the disruption of the total functioning of the organism rather than concentrate our attention solely upon the part or parts in which the accident occurred." ** However, for the sake of simplicity, here, the sensory areas are presented separately and their interrelationships are implied.

* Myklebust, Helmer R., "Aphasia in Children". Exceptional Children October 1952. p. 9

** Strauss, Alfred A., and Kephart, Newell C., Psychopathology and Education of the Brain-Injured Child. Vol. II, Grune & Stratton, 1955. p. 1

THE APHASIC CHILD

Aphasia in children has been recognized by neurologists, psychologists, speech pathologists, remedial reading experts and others for many years. It is important now that every teacher of brain-injured children share this knowledge. There is much to be learned concerning aphasia in children. Teachers can make a real contribution.

"Aphasia is not essentially or basically a speech problem. Rather it is a language disorder ... Language is a system of symbols or signs, which take the place of, or stand for, objects, ideas and feelings ... Language symbols are either auditory (spoken) or visual (written or read) ... The symbols can be used to refer to past, present or future situations." * They may include letters, separately or in words, numbers and abstract forms. "Aphasia is a disorder in acquiring the normal use of these symbols which constitute the language; it is a defect which prevents normal development of symbolic behavior ... Disorders in the symbolic processes involved in expressing oneself (speaking) are referred to as expressive aphasia. Disorders in the symbolic processes involved in understanding (receiving) language are referred to as receptive aphasia. Disorders in the symbolic processes involved in the fundamental function of using language internally is referred to as central aphasia." * It is uncommon to find a child whose problem is clearly defined. Most frequently there are combinations of difficulty in varying degrees. These will be discussed following the section on the anatomy and physiology of the brain.

An education program for the aphasic child should include for care all brain-injured children with language disorders in speaking, listening, reading, writing, and arithmetic.

* Myklebust, Helmer R. Ibid, p. 10, 11.

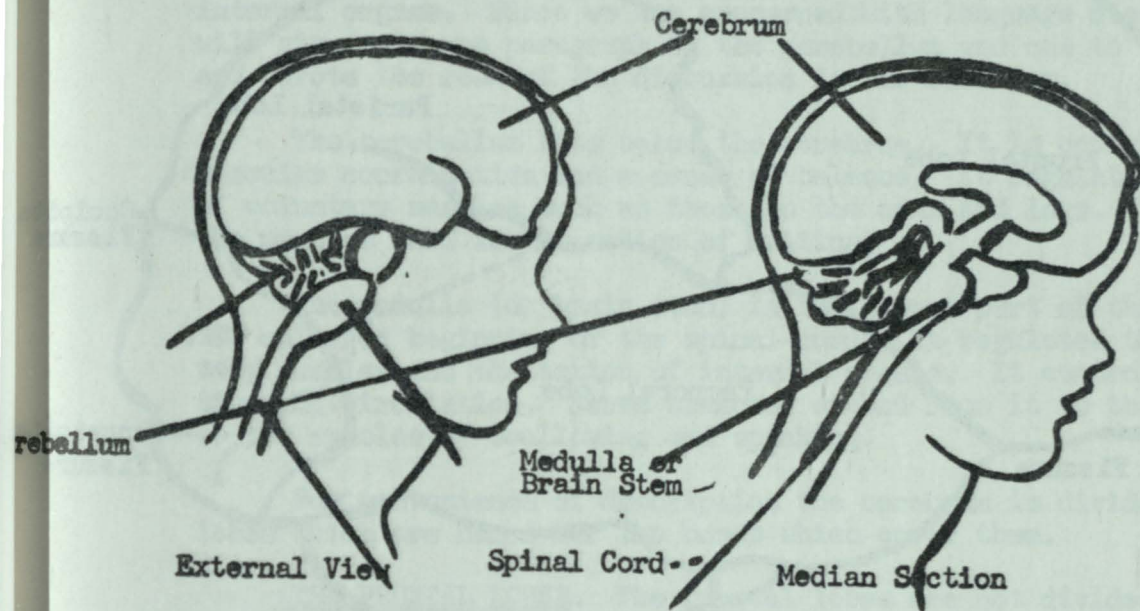
In addition to the knowledge of the organism to which injury has occurred and its resulting disfunction we must remember that the problem of brain injury to a child presents a further complication. The problem is increased since in his case the organism is not yet fully developed. "Thus, not only must we consider all the possible effects of the injury on the total organism as we do in the adult, but we must also consider the important question of the effect of the injury upon the development which is in the process and the effect upon the organism which will eventually result from the deviation of this development." *

As a first step toward meeting these problems we are presenting here some basic facts about brain functions. We are also including suggested techniques and devices which have been found helpful in teaching brain-injured children.

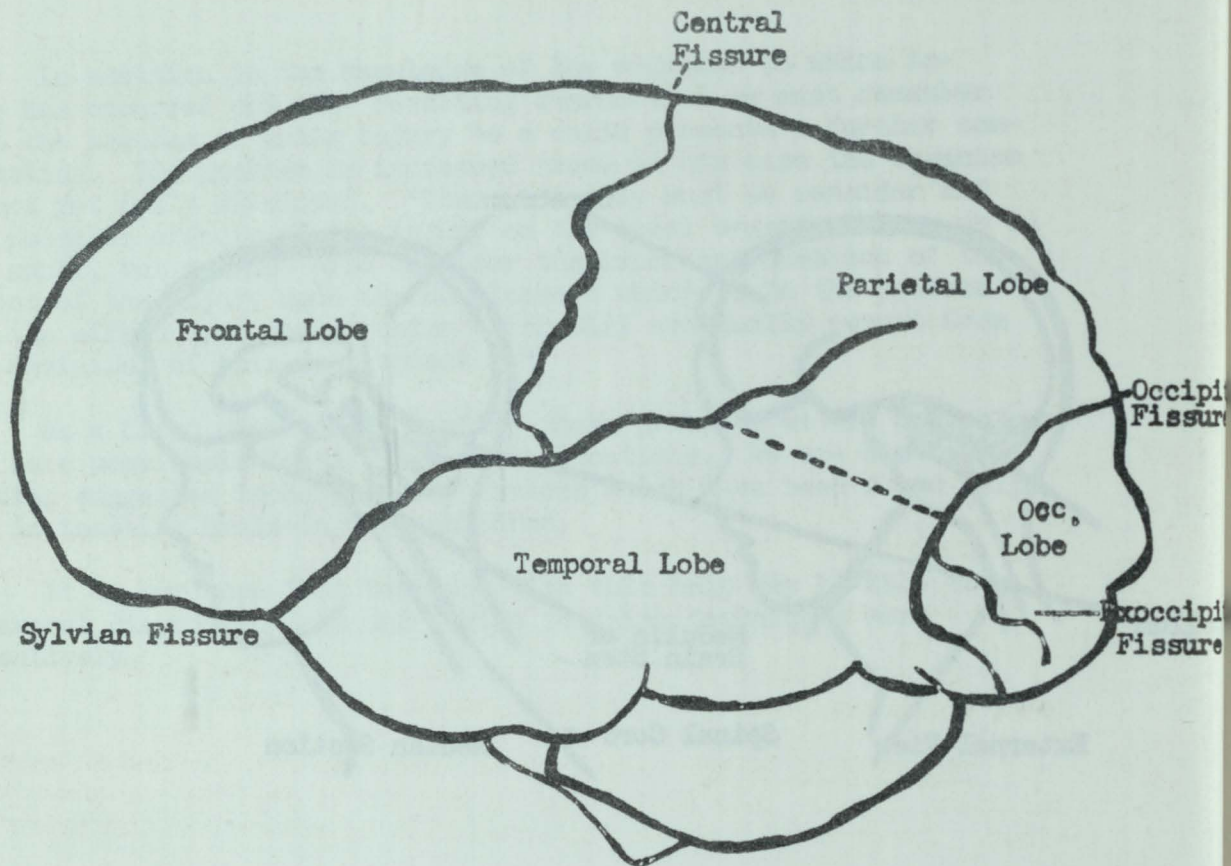
It is our hope that teachers with this help may be able to interpret diagnostic data and devise teaching techniques more effectively.

*Strauss, Alfred A., and Kephart, Newell C., Ibid. p. 1

THE BRAIN



LATERAL VIEW



THE BRAIN

The following description and maps of the brain tell the merest fraction of its story. Their purpose is to give, as briefly as possible, the minimum facts needed to understand the causes and effects of language difficulties resulting from brain injuries.

The three main parts of the brain are (1) the cerebrum which controls thoughts and actions, (2) the cerebellum which controls balance and voluntary muscles, and (3) the medulla, or brain stem, which controls the involuntary muscles and activities of the automatic internal organs. Since we are concerned with language disorders, we will give only one paragraph to the cerebellum and one to the medulla and devote the rest of the discussion to the cerebrum.

The cerebellum lies below the cerebrum. It is concerned with muscular coordination and a sense of balance. It regulates the action of voluntary muscles such as those in the arms and legs. It controls the muscles used in the motion of writing.

The medulla (or brain stem) is the lowest part of the brain or the enlarged beginning of the spinal cord. It regulates the involuntary muscles and the action of internal organs. It controls respiration and circulation. Nerve branches extend from it to the throat, to the muscles of swallowing and speaking.

For convenience of description the cerebrum is divided into four lobes which are named for the bones which cover them.

THE FRONTAL LOBES. The frontal lobes are not divided into major and minor areas. Each side seems to be able to perform the same functions. The frontal area is concerned with attention and concentration.

Injury to the frontal lobes, or, in fact, to any part of the brain, has the effect of narrowing the range of balanced behavior and decreasing emotional tolerance.

Gray's Anatomy (edited by Gross, p. 938) states: "The frontal area is connected to the somesthetic, visual, auditory, and other sensory areas by association fibers and to the thalamus by projection fibers. It has been urged that this area of the brain determines the personal reaction of the individual according to the alterations in feeling tone, modified or intensified, as the case may be, by the effects of the past experience, and it is therefore responsible, in a general way, for behavior and conduct. Lesions of the frontal area, whether cortical or sub-cortical, commonly result in some alteration of the character of the patient."

THE PARIETAL LOBE. The parietal lobe is an association area. It correlates information obtained from the sensory centers. That is, it blends into a whole the memory patterns of sight, hearing and touch and stores them for future reference. It is by way of this association area that we get knowledge of our environment.

THE TEMPORAL LOBE. The temporal lobe is the auditory area. It functions together with the parietal lobe in developing the engrams of memory and language.

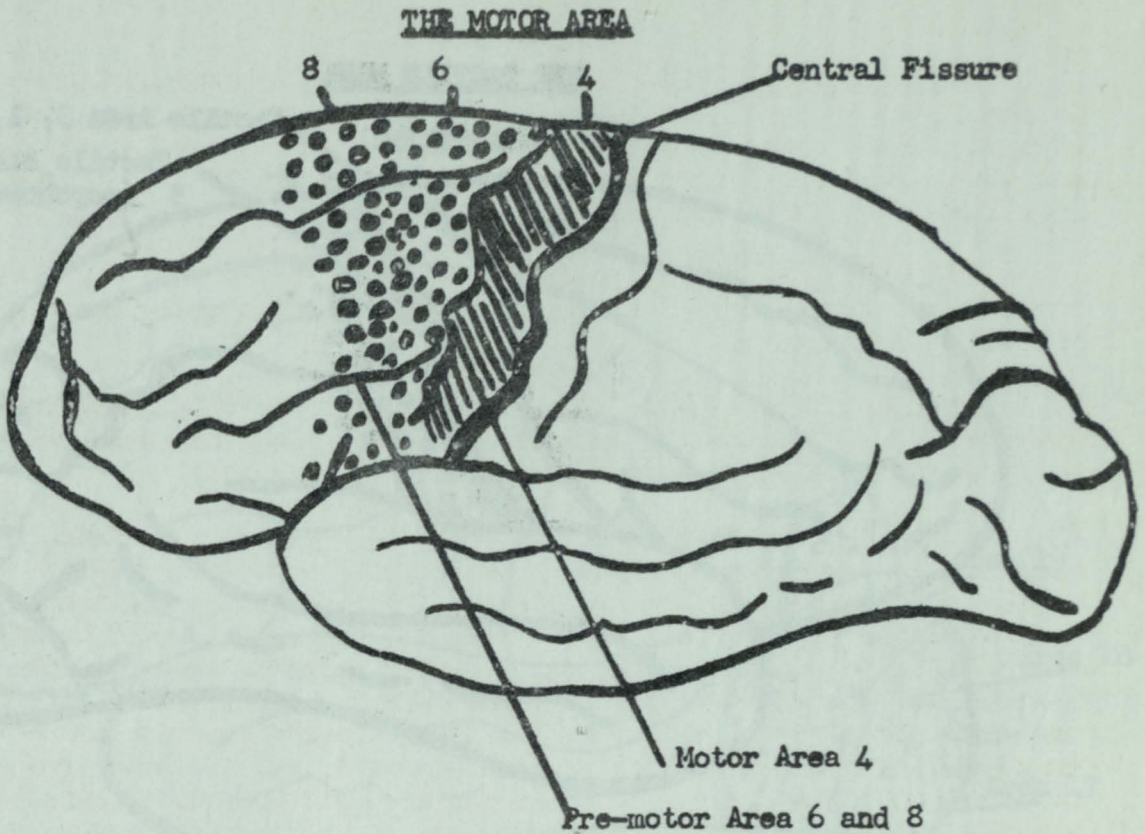
THE OCCIPITAL LOBE. The occipital lobe is the visual area which enables us to see and to recognize form. Together with the parietal lobe, it enables us to remember what we have seen.

Dr. Argy said in a lecture entitled "Syndromes of Brain Damage", delivered to a workshop at Catholic University on June 12, 1954: "Without a union of the three memory patterns of sight, hearing, and touch, three isolated ideas of an object would exist and the result would be of questionable value. This union of the three memory patterns occurs in the posterior temporal and the parietal cortices, where a total memory picture of the whole object develops....The resulting picture constitutes sensory knowledge, or gnosis, and destruction of any or all of these areas will interfere with the formation of the complete picture, or agnosis. When agnosis involves the mechanism of speech, it is known as sensory aphasia, and there is an inability to understand the written or spoken word, depending upon whether the memory patterns of vision or hearing are at fault."

For educational purposes herein, we need to consider a theoretical division of the cortex in terms of function as related to anatomical structure.

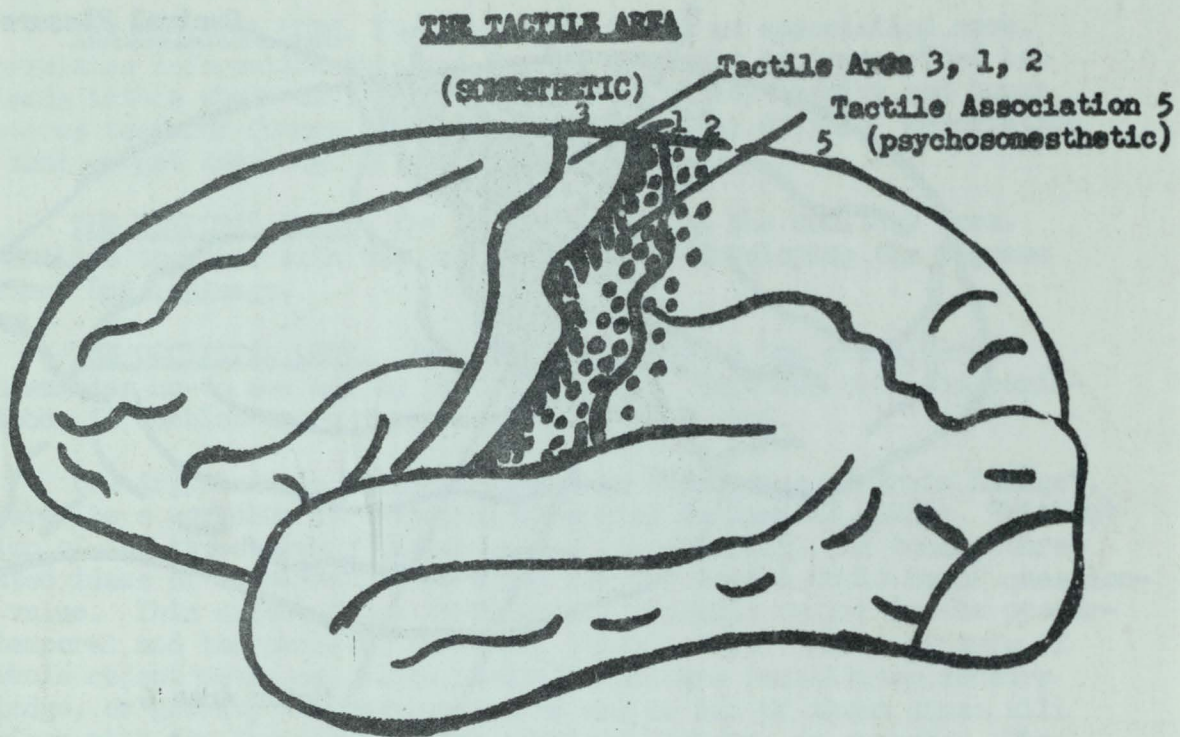
The interdependence of various parts of the brain can be better understood after general areas are identified as follows:-

- The Motor Area
- The Tactile Area
- The Visual Area
- The Auditory Area
- The Motor Speech Area



The motor area is the strip of cortex next to the central fissure. It is responsible for individual movements.

The cortex, just in front of the motor area, is called the pre-motor area. It is responsible for the orderly series of movements which constitute acts.



The strip behind the motor area is the tactile or somesthetic area. It is the chief cortical center where sensations from the skin and muscles are received.

The tactile association area or psychosomesthetic area surrounds the tactile area and extends into the adjoining parietal lobe. This enables us to associate a sensation with a past experience.

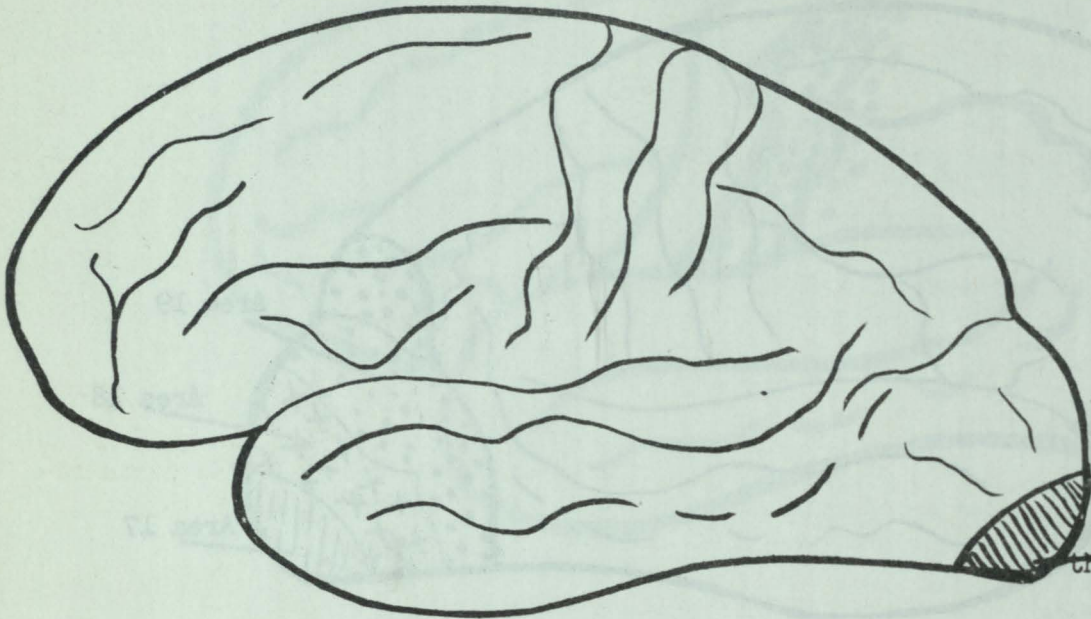
THE VISUAL AREA



The visual area is located in the occipital lobe and consists of areas 17, 18, 19. The function of each area is further described.

VISUAL AREA 17

LEFT HEMISPHERE LATERAL SURFACE

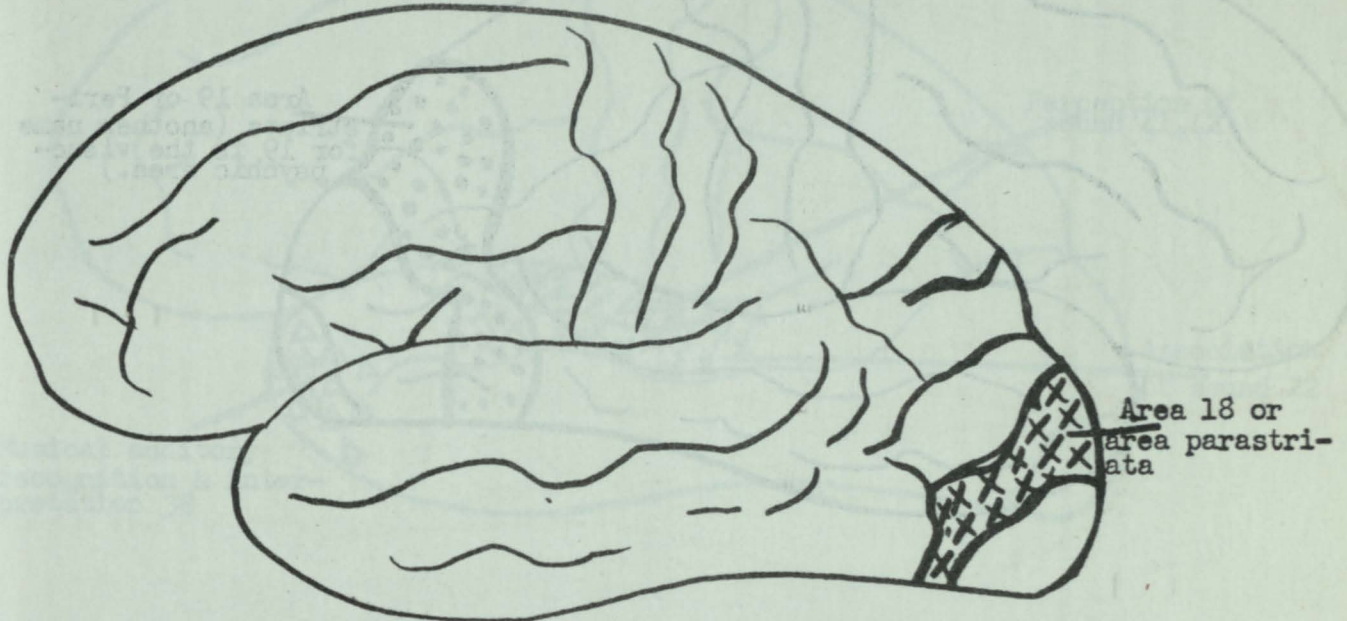


Area 17 is
the striate area.

Only a part of Area 17 is seen on the lateral surface. Most of it is on the medial surface. Area 17 is the primary sensory area for sight. If it is destroyed, the result is sensory blindness. Stimuli are brought to this area by the optic nerves and are registered here only as meaningless "dots and dashes of light and shade." If area 17 alone, were functioning, without the help of areas 18 and 19, the person would be like a new born baby - unable to recognize people or objects - unable to secure any meaning from visual stimuli.

VISUAL AREA 18

LEFT HEMISPHERE, LATERAL SURFACE



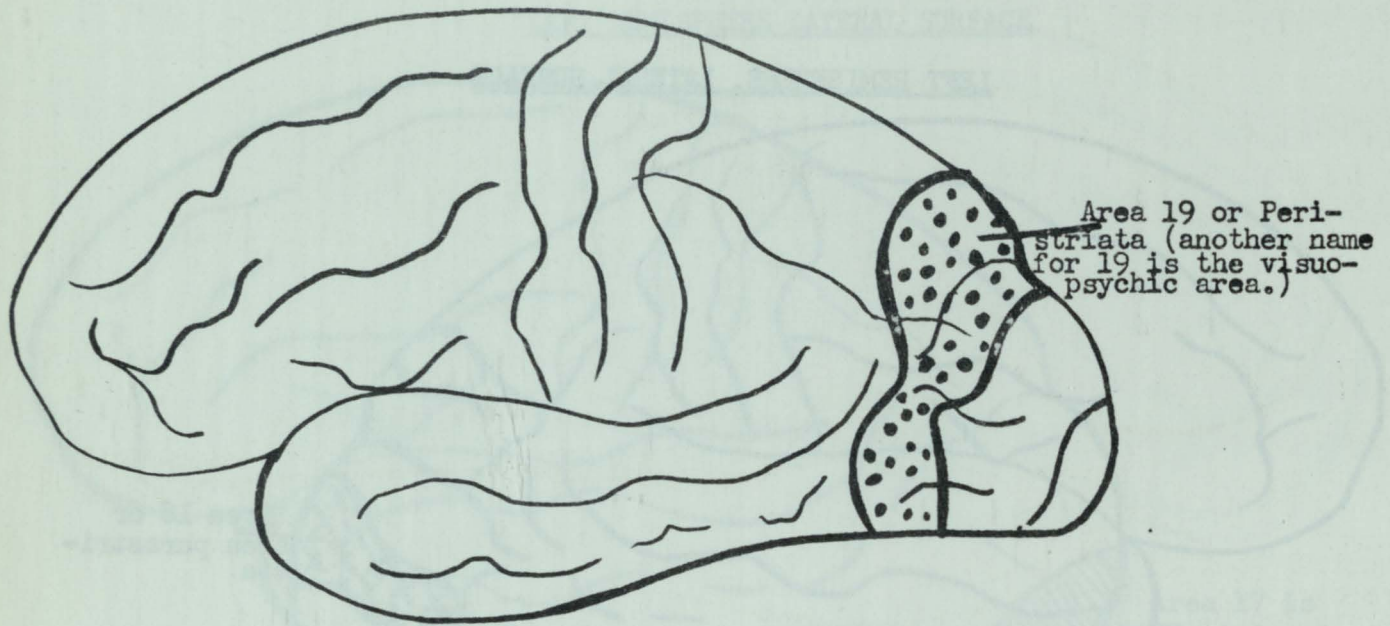
Area 18 is on the medial, as well as the lateral, surface. This is the area of visual recognition and classification. A lesion in the upper part of area 18 causes loss of ability to recognize inanimate objects. A lesion in the lower part of area 18 causes loss of animate objects. A lesion in a small area on the mediāl surface of area 18 destroys the ability to recognize colors.

Association fibers carry visual stimuli from area 17 to area 18, where visual recognition takes place. By means of area 18 the individual recognizes, for example, a car as a car and as one kind of car out of many kinds of cars; and as a particular object belonging to a certain class of objects - in this case - trains, boats, bicycles, etc.

A lesion which completely destroyed on both sides area 18 or the association fibers which connect area 17 with area 18 would leave the patient totally unable to recognize anything by sight.

Partial destruction of area 18 or partial destruction of the association fibers between area 17 and 18 would cause several types of visual disability according to the location and extent of the injury.

VISUAL AREA 19



Area 19 (on both the lateral and medial surface) is the area of visual recall, visual memory and associations. A lesion in area 19 or one which destroyed the connections (association fibers) between area 18 and area 19 would mean that the individual could see the word and recognize its particular shape, but the word would have no meaning and he could not recall having seen it before. This would be visual agnosia.

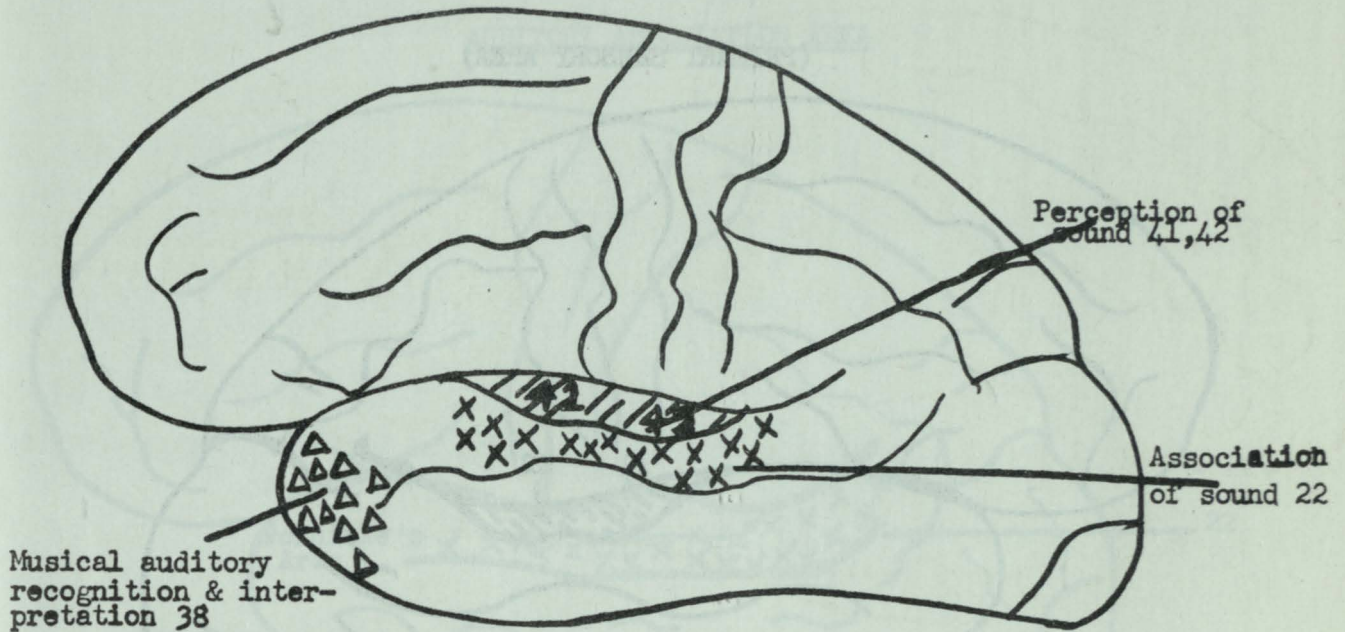
Area 19 is also concerned with the determination of distance and the proper orientation of objects in space.

Color Blindness.

Injury to a part of the medial surface of the occipital lobe causes color blindness or inability to recall colors.

Injury to another area causes inability to see by a dim light.

AUDITORY AREAS



The auditory areas enable us to perceive sound, recognize it and to associate it with previous experiences. A more detailed explanation follows.

AUDITORY AREA.

PERCEPTION OF SOUND

(PRIMARY SENSORY AREA)

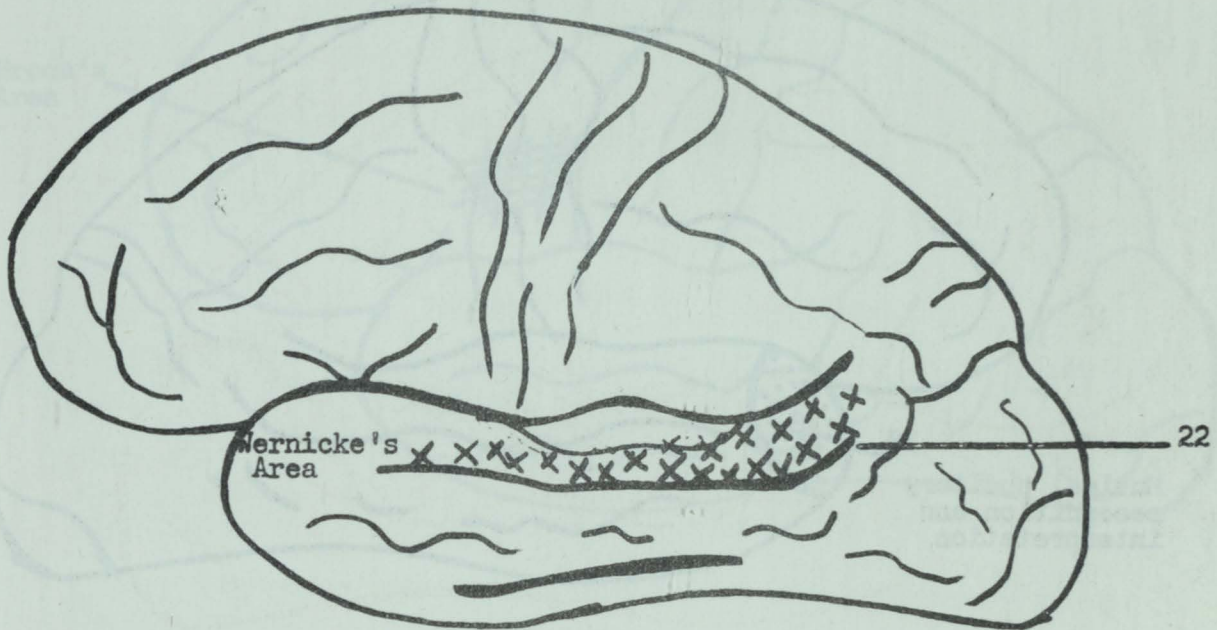


In areas 41 and 42 sound is perceived only as sound - not as words or as any recognizable sound. If this small area is injured in both hemispheres, deafness will result. This type of deafness is called subcortical sensory aphasia. It is also called pure word deafness, pure speech deafness or peripheral sensory aphasia. Kurt Goldstein in Aftereffects of Brain Injuries in War said that subcortical sensory aphasia had never been observed so far as he knew. To cause it (alone), the lesion would have to be very small and located only in areas 41, 42. However, see Aphasia Therapeutics, pages 30. 31 for reference to treatment.

AUDITORY AREAS

WERNICKE'S AREA (22)

AUDITORY ASSOCIATION AREA

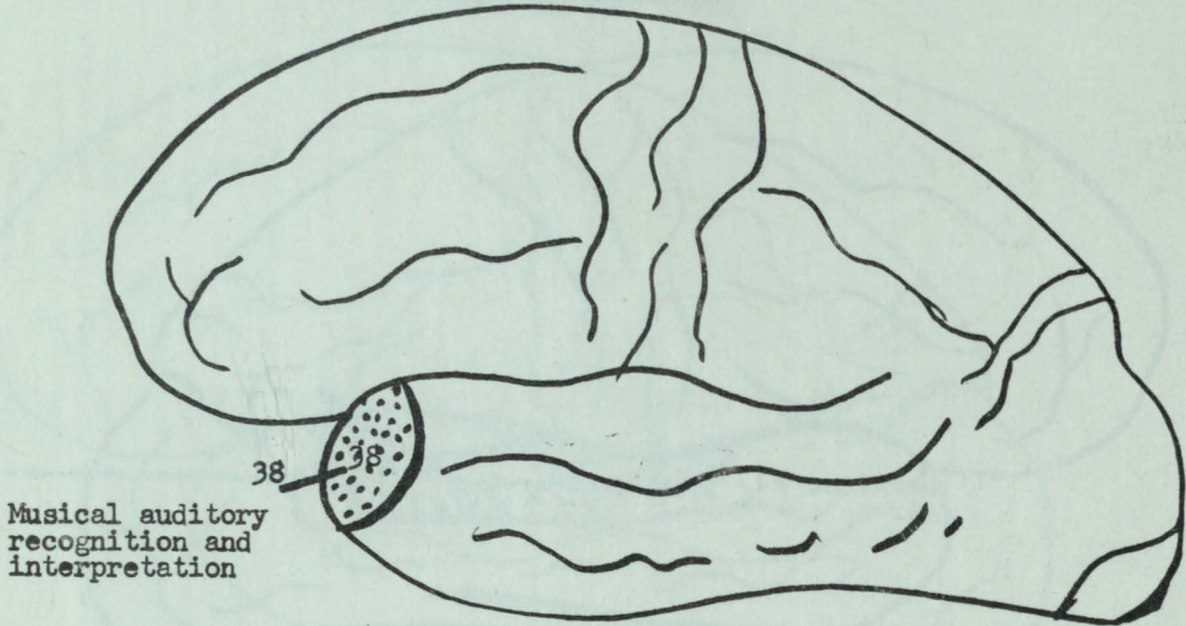


A lesion in Wernicke's area disturbs the patient's understanding of the meaning of sounds or spoken words. "Inability to understand oral words is termed auditory verbal agnosia. Inability to understand oral numbers is auditory number agnosia." "Oral speech would sound like a foreign language to him." "Auditory agnosia often occurs in combination with visual agnosia."
- Aphasia Therapeutics, pp. 30, 31.

The areas of Wernicke are association areas. At birth they are equal on both sides; but they are far more easily trained on the major side (usually the left). Since they contain the memories of the sounds of words, destruction on the major side will produce aphasia for spoken words. In training, a person may be able to understand a few simple commands (using the minor side) before he fatigues.

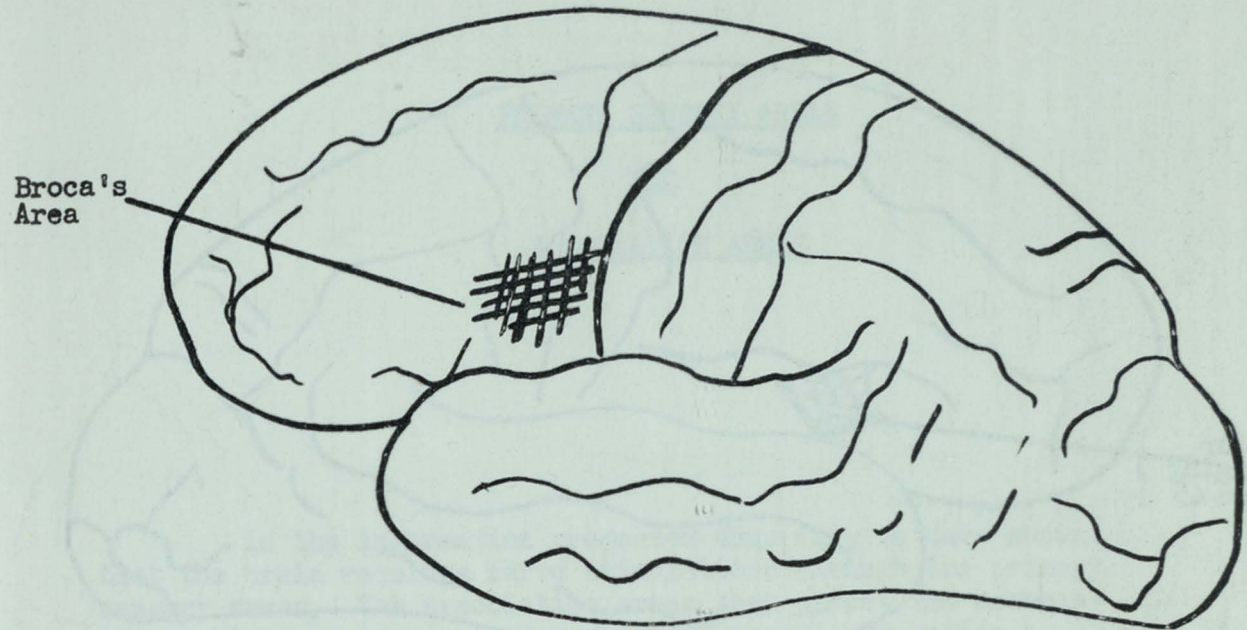
AUDITORY AREAS

MUSICAL AUDITORY RECOGNITION AND INTERPRETATION



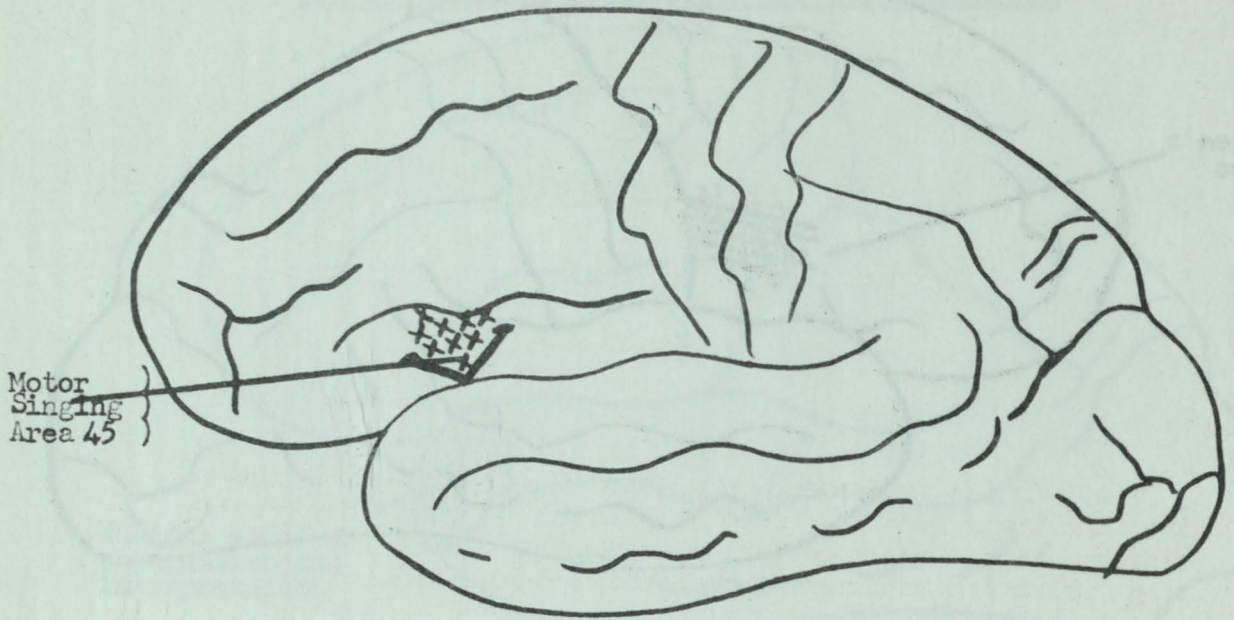
"The anterior extremity of the superior temporal convolution (area 38 of Brodmann) is concerned with musical auditory recognition and interpretation. It receives impulses from the transverse gyri of Heschl which act as centers of primary auditory perception. Destruction of area 38 of either side usually produces no disturbance of musical comprehension because the other side takes over the function. Destruction of the area bilaterally destroys the auditory musical sense." (Nielson, p. 246)

MOTOR SPEECH AREA 44



In this area, chiefly on the major side, are the patterns of how to move the muscles of speech for the purpose of uttering words. Through these patterns the person activates the cells in the precentral gyrus of the same side to produce speech.

MUSIC



According to Nielson (p. 246), "The pars triangularis of the third frontal convolution (area 45 of Brodmann) is concerned with all of the functions of vocal music and the playing of musical instruments. Injury to it causes apraxia for these acts if it causes any symptom. But it has been abundantly verified that the minor side when called upon takes over the function with great ease and that in only rare instances is there any functional defect after injury to only one side."

PRIMARY SENSORY AREAS

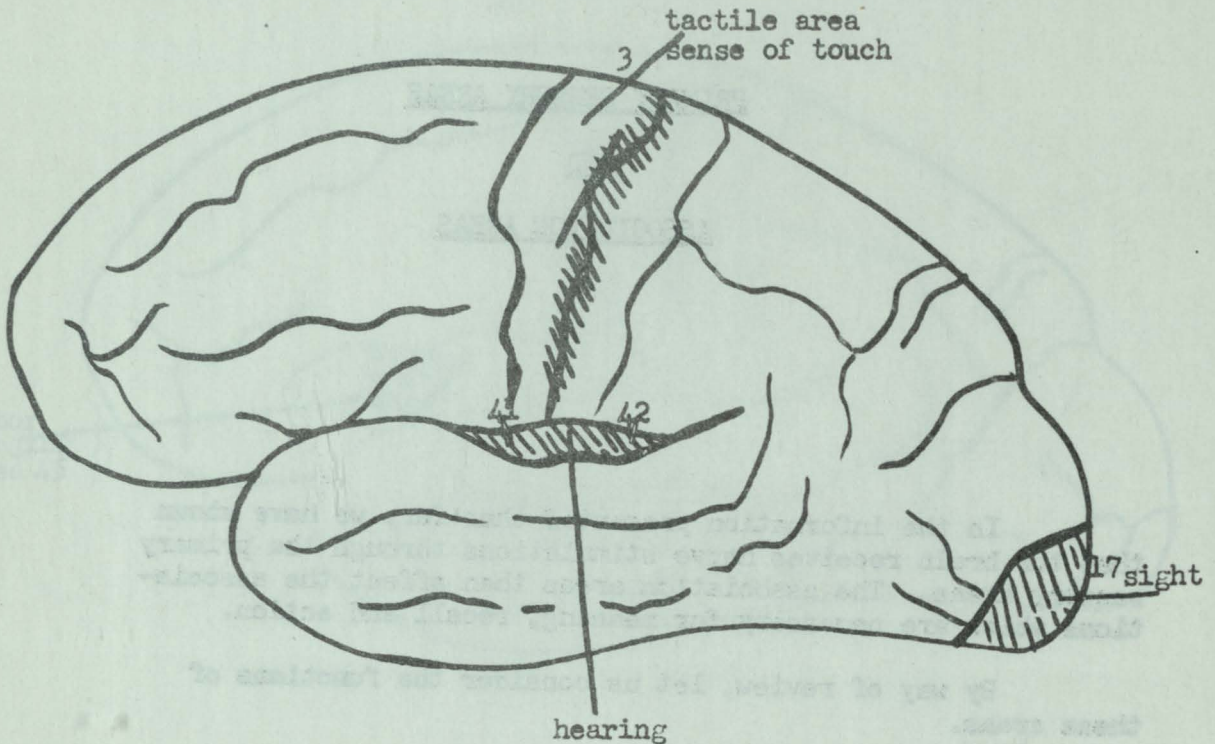
AND

ASSOCIATION AREAS

In the information presented thus far, we have shown that the brain receives nerve stimulations through the primary sensory areas. The association areas then affect the associations which are necessary for meaning, recall and action.

By way of review, let us consider the functions of these areas.

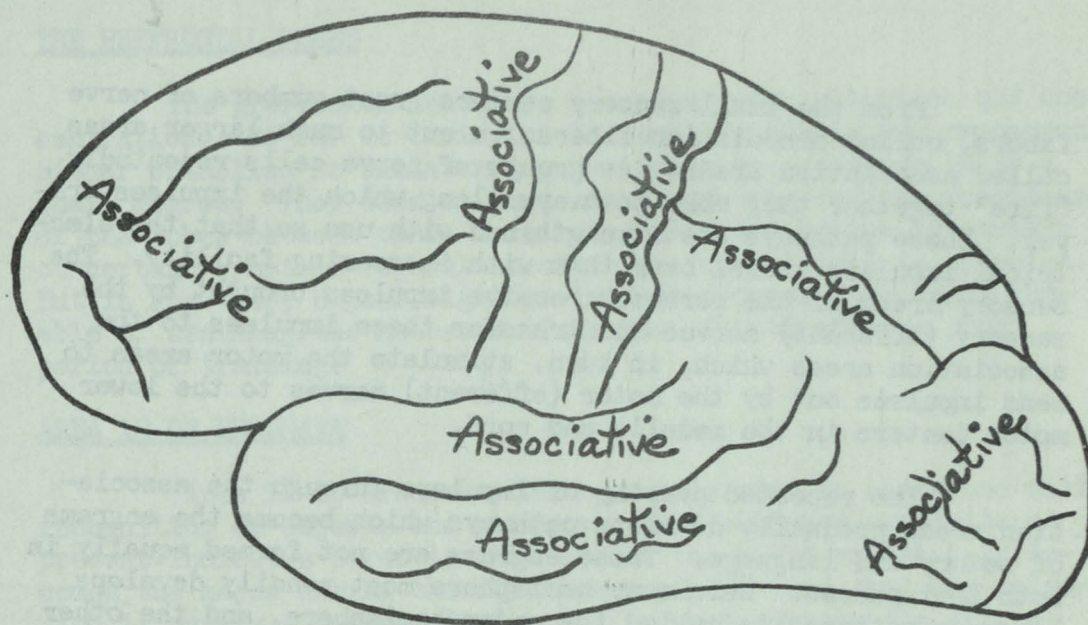
THE PRIMARY SENSORY AREAS



The primary sensory areas are the very small centers where the nerves from the sense organs deliver their electrical impulses to the cortex. These primary sensory areas, alone, cannot produce any understanding of the meaning of the sensations they receive, or preserve any memory of them. Recognition of the significance of sensory stimuli and recall (memory) are the function of the association areas.

Damage to the sensory areas may cause in turn blindness, deafness, or the inability to receive tactile stimulation.

ASSOCIATION AREAS



ASSOCIATION FIBERS



ASSOCIATION AREAS

From the small sensory centers great numbers of nerve fibers, called association fibers, go out to much larger areas called association areas. As groups of nerve cells repeatedly "fire" together they make pathways along which the impulses travel. These pathways are strengthened with use so that the electrical impulses travel over them with increasing facility. The sensory areas of the cerebrum receive impulses brought by the sensory (afferent) nerves and transfer these impulses to the association areas which, in turn, stimulate the motor areas to send impulses out by the motor (efferent) nerves to the lower motor centers in the medulla and cord.

The repeated passing of impulses through the association areas gradually develops pathways which become the engrams of memory and language. These engrams are not formed equally in both hemispheres. Whichever hemisphere most readily develops language patterns is called the major hemisphere, and the other is called the minor hemisphere. In right-handed individuals, the left hemisphere is usually the major one. Ninety-four percent of the language engrams are normally in the major hemisphere, while in the minor, there are only rudimentary engrams. Therefore, injury to the major side will seriously affect language functions. If it is extensive enough, it will destroy them altogether.

Concepts are formed equally well in both hemispheres. Therefore, intelligence is impaired only to the degree that language symbols are necessary to thinking. But lack of language symbols severely limits thinking, because they are essential for abstract thinking.

Nielson lists the following eleven association areas, and states that they occur in pairs, that is, in both the major and minor hemispheres. But, "the degree to which the major in each case is superior to the minor is not the same for all pairs."

ELEVEN ASSOCIATION AREAS ACCORDING TO NIELSON *

THE PREFRONTAL LOBES

The prefrontal lobes are concerned with attention and concentration. So far as their intellectual functions are concerned, either establish no unilateral superiority or establish it to a small degree. They seem at times to divide the various functions of the lobes between them, this being manifest by the appearance of certain symptoms regardless of which frontal lobe is affected. But in any case, either right or left prefrontal lobe seems capable of assuming the necessary function of both after a short period of training.

AREA 18 OF BRODMANN

Area 18 of Brodmann (area parastriata) is concerned with recognition of objects and pictures. The evidence available at present indicates strongly that either the right or the left becomes the major during the first year of life and that the selection is purely a matter of chance. In most persons the degree to which either becomes the major is relatively slight and destruction of the major one leads to only temporary disability of recognition of objects. In a few persons (relatively speaking) the degree of superiority of one becomes so great that its destruction leads to visual agnosia for objects lasting for years. In most instances the major area 18 is ipsilateral to the major temporal lobe (when the major temporal lobe is determined by language function). In a few instances the right remains the major because of an early fixation even though the major temporal lobe becomes established on the left side.

AREA 19 OF BRODMANN

Area 19 of Brodmann (area peristriata) is concerned with revisualization of former images. It follows the rules of lateral superiority described as governing area 18. The three groups described (prefrontal lobe, area 18, and area 19) are not concerned with language and this fact probably underlies the weakness of unilateral superiority. There is much evidence that the superiority of the occipital lobes actually shifts, when it does shift, with the establishment of language centers (second year of life). The lowest function which can be called language is music. It will be seen as we proceed that the areas concerned with vocal, instrumental, and auditory music perform their functions almost equally well on the two sides.

PARS TRIANGULARIS OF THE THIRD FRONTAL CONVOLUTION

The pars triangularis of the third frontal convolution (area 45 of Brodmann) is concerned with all of the functions of vocal music and the playing of musical instruments. Injury to it causes apraxia for these acts if it causes any symptom. But it has been abundantly verified that the minor side when called upon takes over the function with great ease and that in only rare instances is there any functional defect after injury to only one side.

ANTERIOR EXTREMITY OF THE SUPERIOR TEMPORAL CONVOLUTION

The anterior extremity of the superior temporal convolution (area 38 of Brodmann) is concerned with musical auditory recognition and interpretation. It receives impulses from the transverse gyri of Heschl which act as centers of primary auditory perception. Destruction of area 38 of either side usually produces no disturbance of musical comprehension because the other side takes over the function. Destruction of the area bilaterally destroys the auditory musical sense.

WERNICKE'S AREA

Wernicke's area (areas 41 and 42 of Brodmann) is concerned with interpretation of spoken language. Comprehension of spoken language is next in scale above comprehension of music and in harmony with this fact the degree to which the major side ranks above the minor is next in the scale. After the removal of the major temporal lobe the average patient is able to comprehend about five or six questions addressed to him. He (his minor temporal lobe) then fatigues. After a year he usually understands a great deal of what is said and after two years one can as a rule hardly tell in ordinary conversation that anything has been removed. The right has assumed the function.

AREA 37 OF BRODMANN

Area 37 of Brodmann is concerned with formulation of language. This function is really the one which has been called internal language. Destruction of area 37, or in some cases even relatively slight damage to it, results in inability of the patient to find his words and formulate his sentences. The degree to which the major side is superior is almost identical with that described for the area of Wernicke. Formulation of language is a complex cerebral function dependent on several subsidiary functions. An area of cerebral cortex essentially identical in extent with area 37 of Brodmann is of the utmost importance for formulation of language, either written or spoken. Difficulty with word finding occurs in some cases of angular gyrus lesions, in perhaps one-half of the instances. The same difficulty occurs

in a few instances of lesion of the posterior portion of the superior temporal convolution, i.e; when the lesion is behind Wernicke's area. Lesions of Wernicke's area itself interfere with formulation of language to such an extent (as a rule) that the patient does not speak.

Area 37 of Brodmann is an area in which knowledge is coordinated for significance of words and expressions and in which grammar, rhetoric, and syntax are considered in the formulation of language. The area is in constant association with all of the other areas concerned with language and its separation from the other areas by organic lesions may give rise to defect of formulation of language. Lesions of this area provoke as their most constant symptom amnesia aphasia. The area for formulation of language is chiefly area 37 of Brodmann but this area is so trained by association with Broca's convolution, Wernicke's area, and the angular gyrus that in some instances a lesion of one of these cripples the function of area 37 sufficiently to cause it to "resign" and turn over the function of formulation of language to the identical area of the minor side. The result is amnesic aphasia. Whether misuse of words, use of wrong words (commonly called paraphasia), or the more severe forms called jargon aphasia or agrammatism result depends on the degree to which the minor side takes up the function. The minor side is usually capable of assuming to some degree the function of formulation of language, but, until it has had time for training, it functions imperfectly. The most pronounced defect is seen in loss of ability to associate objects and their names.

BROCA'S CONVOLUTION

Broca's convolution contains engrams representing the physiologic basis of memory of how to use the vocal organs for the production of words. These engrams are formed simultaneously with, or very shortly after, those of Wernicke's area. The major is superior to the minor in about the same degree as already stated for Wernicke's area, i. e; far superior. Destruction of it in adulthood leaves the patient, in the great majority of cases, able to say only a few words, which he uses for all responses. Usually several years are required for training of the minor side; but as a rule, if the general cerebral function is of good quality, the minor side becomes nearly as proficient as the major had been.

THE CONVOLUTIONS OF GRATIOLET

The convolutions of Gratiolet, located between the angular gyrus and the second occipital convolution (zone between areas 19 and 39 of Brodmann), are concerned with the body scheme. As the naming of parts of the body, naming of fingers and designation of laterality, includes phases of language, disturbance of

the body scheme follow the rules for language areas rather than those for the nonlanguage areas regarding laterality. The major is superior to about the degree described for the area of Wernicke, i. e.; greatly superior, as the syndrome occurs with great regularity from lesions of the major side.

THE FRONTAL WRITING CENTER AND THE ANGULAR GYRUS

The frontal writing center and the angular gyrus are concerned with the most highly specialized of language functions, emission and reception, respectively, of written and printed language. The writing center at the foot of the second frontal convolution is essential to the memory of handwriting movements. In the majority of cases it cannot function without close association with the convolution of Broca. It cannot, of course, function in writing unless the language formulation area (area 37 of Brodmann) and the area of revisualization of the written word (angular gyrus) are intact and in communication with it. The major writing center is far superior to the minor in most cases. A long period of training is usually necessary for the minor to function at all well. Unless the destruction of the major occurs early in life, the minor rarely attains a degree of perfection comparable to that which the major had enjoyed. Conversion of a left-handed person to right-handedness for writing establishes a writing center on the minor side.

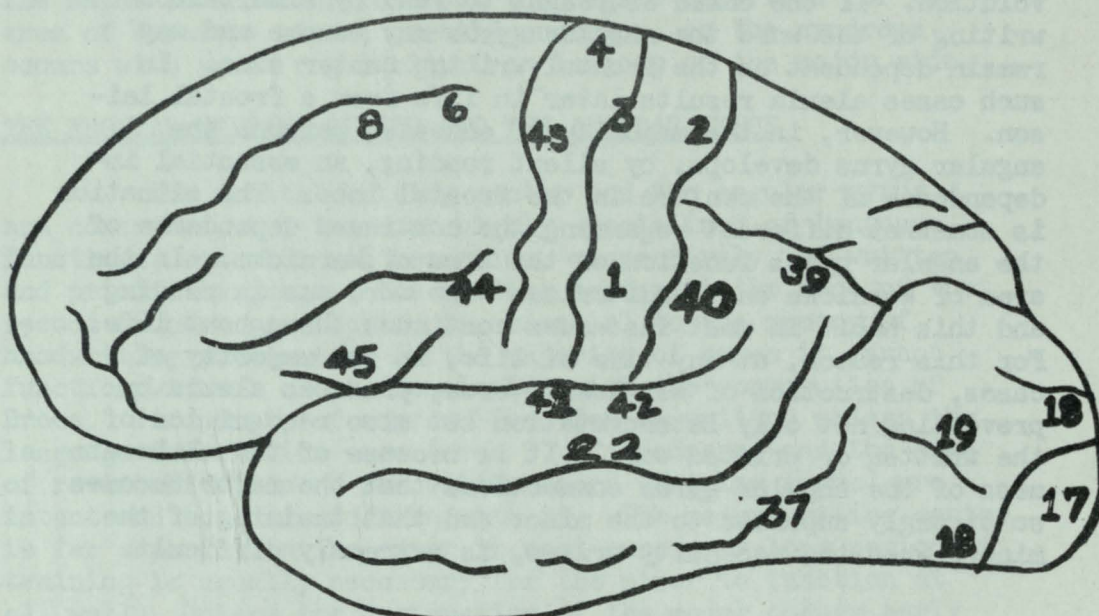
ANGULAR GYRUS

The angular gyrus, area 39, has a double function. Its cortex contains patterns of two types, one for recognition, the other for revisualization of the written and printed word. The patterns of both types are spread diffusely over the cortex and the superiority of the major is great. The minor angular gyrus in most instances has its engrams so crudely made that, after destruction of the major side in adulthood, many years are required for it to perform at all well. Unless the major is destroyed early in life, the minor rarely attains a degree of perfection at all well. Unless the major is destroyed early in life, the minor rarely attains a degree of perfection comparable to that of the major. The angular gyrus is trained in very different ways in different persons and consequently its degree of ultimate independence varies enormously. When a child learns to read he at first associates very intimately the engrams for the enunciated word (for the word spoken by himself) with the auditory memory engram of the word which he reads. This is obvious when one recalls that the child reads aloud; association of the engrams of the angular gyrus with those of Broca's convolution is so intimate that a lesion of Broca's convolution prevents the child from even recognizing the written or printed word. If his training in reading does not advance beyond the point of enunciating (or at least retaining a habit of lip movements while reading) the

angular gyrus never becomes independent of Broca's convolution. If the child is taught to read by simultaneous writing of the word the angular gyrus may become and may remain dependent on the frontal writing center also. In such cases alexia results later in life from a frontal lesion. However, in the majority of educated persons the angular gyrus develops, by silent reading, an essential independence of the centers in the frontal lobe. The situation is somewhat different regarding the continued dependence of the angular gyrus function on the area of Wernicke. In the area of Wernicke one "auditorizes" the word one is reading and this habit in most instances continues throughout life. For this reason, at any time of life, in the majority of cases, destruction of Wernicke's area, produces alexia by preventing not only interpretation but also recognition of the written or printed word. It is because of the elaborateness of the angular gyrus connections that the major becomes so strongly superior to the minor and that training of the minor, when the necessity arises, is extremely difficult.

* Nielson, J. M., AGNOSIA, APRAXIA, APHASIA THEIR VALUE IN CEREBRAL LOCALIZATION, Paul B. Hoeber, Inc., Medical Book Department of Harper & Bros., 1948, pp. 246, 247, 248, 249.

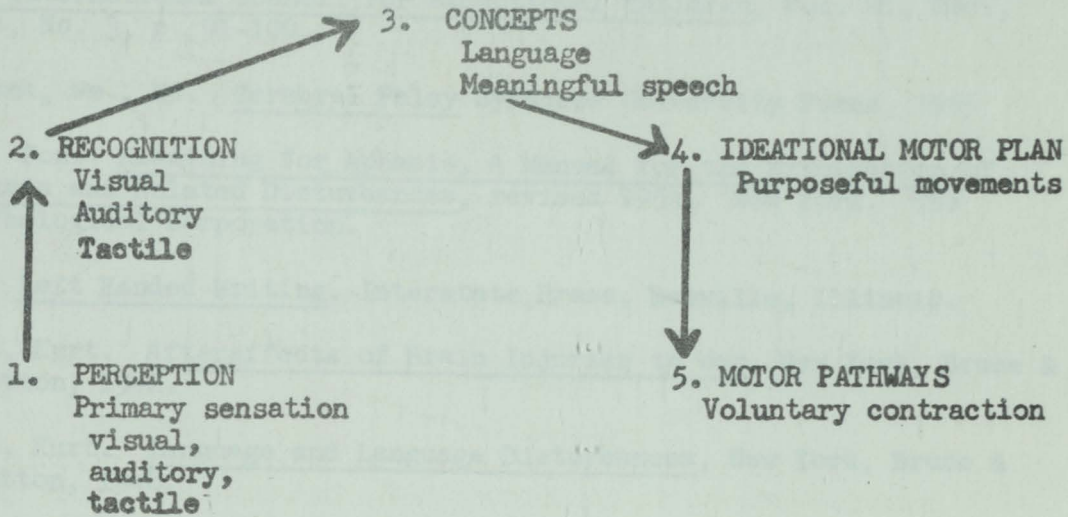
AREAS INVOLVED IN LANGUAGE FUNCTIONS



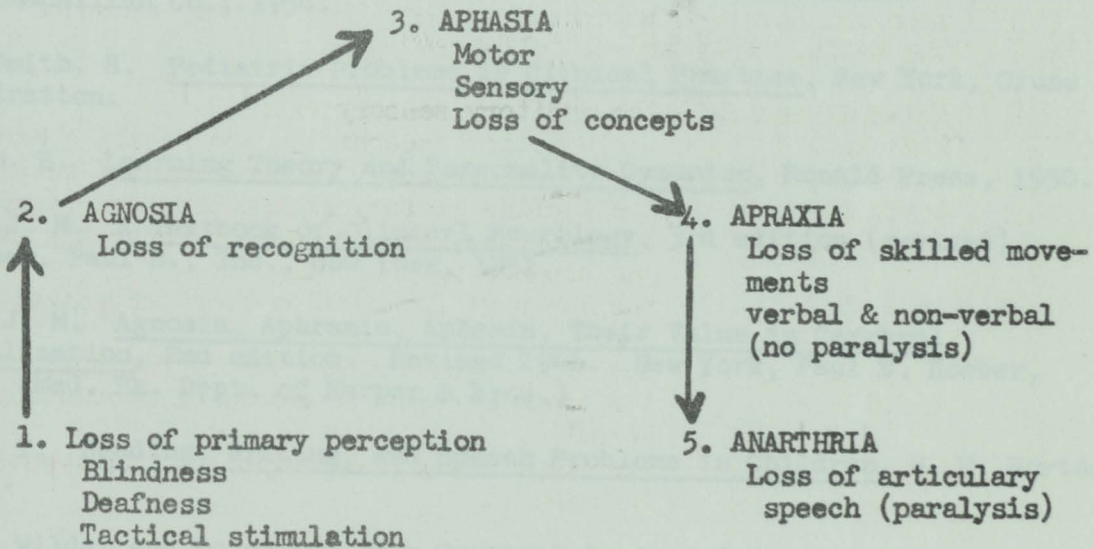
The term language as we have used it is a psychic process centered in the cortex, and, in its widest sense signifies the expression of thoughts and ideas. This includes the ability to hear and understand oral language, to recognize and interpret written symbols, to reflect on and associate ideas, and to express meaningful thoughts both orally and in written form. This, ~~then~~, is a complex process and involves interrelated functions of many areas of the brain. They are as follows:-

- Areas 41 and 42 - the auditory sensory areas
- Area 22 - the auditory recognition and recall areas
- Areas 17, 18, 19 - the visual sensory, recognition and recall areas
- Areas 1, 2, 3 - the tactile sensory recognition and recall areas
- Areas 39, 40 - to recognize, and to recall, correctly associate and produce word meanings
- Area 37 - the language formulation area, organization of words
- Areas 44, 45 - the motor speech areas memory for speech patterns
- Areas 6, 8 - the premotor areas - memory of production of speech
- Areas 4, 48 - the motor areas - directions of movements, etc. for speech.

DEVELOPMENTAL LEVELS OF THE CORTICAL FUNCTION FOR THE
PRODUCTION OF LANGUAGE



DISTURBANCES PRODUCED AT VARIOUS LEVELS OF CORTICAL FUNCTION



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Permission for reprinting the following article has been granted by the American Journal of Occupational Therapy.

It is included because of the helpful suggestions for teaching adults who have sustained brain injuries. It is our feeling that the teachers will be able to adapt these techniques in working with children. Other suggestions for working with brain-injured children may be found in the Techniques section of the bulletin.

THE ROLE OF THE OCCUPATIONAL THERAPIST IN THE REEDUCATION OF APHASIA PATIENTS

Part II

Myra McDaniel, Major, WSEC

RECEPTIVE DISORDERS

¹ "The aphasic difficulties can generally be grouped into receptive or expressive disorders. The receptive disorders generally clear more rapidly than the expressive ones and are contained under the agnosia classification, manifesting themselves by errors in reception of visual and auditory stimuli. As sensory aphasia involves the receptive areas of speech, it will be discussed with the specific receptive disability.

VISUAL AGNOSIA. This inability to recognize simple and geometric forms can result in failure to recognize letter forms in reading or abstract geometric forms. The former is the more acute problem, as recognition of letter forms is essential to reading. Training can be initiated by the use of small wooden blocks in the form of circles, squares, triangles and crosses. The purpose of these blocks is to illustrate that each physical shape has differentiating characteristics, that the principle of the shape is necessary in order to group the blocks satisfactorily and that each group has a different name. The aphasic sorts the blocks by groups and if possible, names the shape as he puts it into the correct group. If wooden blocks are not available, paper forms can be drawn by the therapist and the aphasic can cut these and sort them into groups, naming them, if possible, as the sorting process is done. Another method of teaching recognition of form is to have the aphasic trace over a form on paper or on the blackboard as it is named by the therapist while he is tracing.

VISUAL NUMBER AGNOSIA. This disability is not as vital to recovery or adjustment as is the visual letter type of agnosia, and reeducation is usually begun after beginning reading and speech have been accomplished. It is done by simple presentation and repetition. There are several ways in which reeducation of this type of patient can be approached: (1) The aphasic individual can write from dictation, repeating the spoken numeral as the digit is copied or traced. (2) The fingers can be used and a number assigned to each finger. (3) A numbered calendar can be utilized for teaching purposes. (4) Numbers can be identified with scores in games, exchange of money, calculation of recipes, purchase of food, etcetera. Card games, for some aphasics, provide a stimulating teaching experience. (5) Flash cards can be used as a drill process in recognition of numbers. Learning the digits by rote is rarely utilized as it means that a relearning process has to be done when the digits are used as numbers. Numbers are used as entities and if the individual learns them by rote, the entire sequence may have to be run through to find the number which he is seeking.

VISUAL LETTER AGNOSIA. If the aphasic can recognize words but not letters, meaningful reading can still be accomplished with this disability. If the individual cannot recognize words but only letters, then the problem is more acute and interference with meaningful reading will result.

¹ - Reprinted from The American Journal of Occupational Therapy
Vol. 9, No. 1, PP. 10-14, Jan-Feb, 1955

Learning the alphabet by rote does not indicate accomplishment toward reading. It is best to use a series of picture forms to illustrate letters, i. e.: A is for animal, apple, etc. B is for ball, boy, baby, etc. A preferred method for obtaining recall is to have the aphasic individual trace the word or letter with his finger. This kinesthetic stimulus is a direct and effective method with many patients.

Colored illustrations may add to the interest and ease in learning. If it is learned that the aphasic has some specific interests, pictures relating to these can be utilized. Football, baseball, household furnishings, gardens, hunting, fishing and many other interests have numerous stimulating picture possibilities. These items require preparation time by the therapist but are appropriate to the adult level of experience and learning of aphasic. A few interesting children's books which can be used until suitable material is prepared are, My Little Golden Dictionary, The Little Golden Book of Words, and My First Dictionary.

VISUAL WORD AGNOSIA (Alexia). The inability to comprehend the printed word is characteristic of many aphasics. This disability is sometimes concurrent with the two types discussed previously, visual agnosia and visual letter agnosia. Training for those must be accomplished before the individual can be trained for sight recognition of the whole words and phrases necessary for comprehension and retention. Books on remedial reading will be found helpful in assisting the aphasic individual with this lack.

Instant recognition is necessary for the advancement of reading skill. With this as a goal, word flash cards procurable from the Expression Company, Boston, can be used to achieve speed in recognition and to check on comprehension and retention. A simple drill book that has been used successfully with this type of aphasic is Using Words. Another type of drill book found valuable for use with aphasics is Daily Drills in Language Skills.

After speed in recognition has been achieved, the next step is comprehension of the meaning of short phrases. The testing of the individual's achievement in this area can be done by having the individual repeat the meaning of short phrases immediately after reading them. With some individuals the paragraph is a better level for checking comprehension and retention. Any form of retelling can be used whether it is by action, words or writing. It is difficult for the aphasic to abstract so this inability must be considered very carefully in evaluating what the individual has selected as the most important items from the reading matter.

Simplified reading material for the adult aphasic who is not ready for periodicals or standard fiction is available from the Fidelier Company, Grand Rapids, Michigan. This company publishes a series of books about different countries which are not only interesting but also worthwhile to the adult with limited reading ability. Specially books such as Working With Electricity have been written on a simplified level as have books and novels of a classical nature.

VISUAL COLOR AGNOSIA. This type of agnosia is rarely seen. Difficulties with color usually are manifested by inability to name the color anoma.

AUDITORY AGNOSIA. The inability of the aphasic to comprehend the spoken word necessitates the therapist's use of visual and tactile stimuli in the re-education program. The material used for motivation must be of interest to the individual.

Common objects are used to stimulate tactile perception. These are presented simultaneously with a picture of the object for stimulation of visual perception. If the spoken name for the object and picture is meaningless to the aphasic, the therapist should print and write the word on the blackboard or on paper, verbalizing it as it is written. The aphasic individual should then copy the name and repeat it. The object and picture are presented again and the name repeated.

After a series of written and spoken repetitions of objects and pictures, the aphasic individual learns that the spoken word is associated with the printed name and object. A variation in the procedure is obtained by presenting the name of the object or picture and having the individual select the correct one from an assembled group or series. The differences in the individual aphasic, the rapidity of fatigue and the high frustration level require that the therapist combine all types of stimulating materials and different approaches in his technique.

EXPRESSIVE DISORDERS

The expressive disorders are those which are seen in an overall motor problem in communication whether it be by speech, writing, gestures or in combination. These motor disabilities, therefore are forms of apraxia. The expressive aphasic can follow both oral and written instruction. Whereas the receptive aphasic is unaware of errors made because of failures in visual or auditory pathways, the expressive aphasic recognizes errors but cannot correct them. The frustration of the expressive aphasic is more evident than that of the receptive aphasic as the former individual has unimpaired mechanisms for self evaluation, self comparison and self criticism.

VERBAL APRAXIA (Motor Aphasia) (Apractic Aphasia) Through speech and other forms of communication we convey not only our feelings, attitudes and thoughts, but also our needs and questions. The therapist needs only to eliminate means of communication with others for several hours during the course of an ordinary day to realize the frustration and isolation of the verbal apractic. The withdrawal tendencies, the hyperirritability, the seeming lack of initiative and the feeling of inadequacy of the aphasic than should be easily understood.

There is no one specific procedure to follow in teaching an aphasic to speak. Each aphasic is an individual with a personality and complication entirely singular in nature. General procedures are therefore suggested from which the therapist can initiate a program.

Placement of lip and tongue must of necessity have precedence over any other step in the teaching program. It is extremely beneficial to use a large mirror in which the aphasic, sitting at the side of the therapist, can watch the movement and placement of the therapist's lips and tongue and can then attempt to initiate those movements. In some instances, the aphasic may need a kinesthetic aid such as the therapist pressing the individual's lips together to produce the "m" or hum sound. Extinguishing a candle or match is sometimes used to stimulate the individual to propel the air outward from the mouth for the "p" sound.

In achieving the "l" sound, a tongue depressor may be necessary to demonstrate correct tongue placement. These movements and placements are not usually achieved in a single period. Patience and understanding are prerequisites for the therapist working with speech problems.

The most easily imitated consonants are learned first. These are p and b in which the air is expelled through the mouth; and m in which the air is expelled through the nose. The printed letter is usually presented simultaneously with the spoken consonant to aid in establishing the association. As the individual acquires the consonant and its sound, it is listed in a notebook for study outside the instruction period.

After consonant sounds are learned, they are combined with the various vowels for syllable drill. Vowels are more easily acquired than consonants. Then the aphasic has the beginning three consonants, p, b and m and the interchanging vowel sounds, one syllable words are formed. As these are acquired by the aphasic, they are listed in the notebook for study. It may be necessary to have pictures of the objects in the notebook to strengthen the association. Such words and objects might consist of pm, mp, mm, etc.

Drill is continued on this basic level until the individual can say and write the proper word when the picture of the object is shown. Writing ability may lag at this point, and the individual progress more rapidly on the oral phase. Oral, written, kinesthetic and tracing methods are all used to stimulate and maintain the aphasic's interest. Abstract words are not used as it is difficult to portray their meaning or combine them with an object for association. The relearning of language is usually in this order: nouns, verbs, adjectives and adverbs.

When successful recall is made of the name of the object upon presentation of the picture, further varied drill is obtained by having the individual select the pictured object from a group of other pictures. Additional drill can be obtained by presenting the picture and having the individual speak or write the name of the object.

The presentation of consonants is usually that of normal acquisition of sounds in the development of speech: p, b, m, w, h, d, t, n, g, k, ng, j, f, v, th, ds, sh, l, z, s, r, hw. Vowel positioning and sounds are taught concurrently.

Objects which the individual uses or with which he had daily contact should be introduced as early as possible. This will enrich not only the association of the word with the object, but also will give the adult individual a feeling of concrete achievement.

Three books that have proved helpful in teaching the adult aphasic and in providing sound drills are: Elementary Education for Adults - First Lesson in Speech Improvement and Better Speech and Better Reading (22).

After the naming level has been achieved, verbs are added and simple sentences can be formed. These are also included in the notebook for outside practice. Pronouns, adjectives, adverbs and some verbs are more abstract than nouns and other verb forms, and attempts to teach these result in confusion. As communication becomes possible on the simplified sentence level, it is most practical to teach these words in sentence structure and allow their meaning and place in the sentence to result from usage.

Many approaches and variations in techniques and stimuli may have to be used to find the one approach which is suitable for the individual adult aphasic. It is a time-consuming procedure and a stimulating challenge to the alert and interested therapist.

NONVERBAL APRAXIA. Nonverbal apraxia, as has been stated previously, is an inability to perform. Of the three types, kinetic, ideational and ideokinetic, the latter is more rare and is usually transient.

In kinetic apraxia, treatment in occupational therapy is directed toward reeducating the functional grasp of the individual. Treatment similar to that for muscle weakness of the upper extremity can be initiated with gross motions and progression made to fine, discreet motions. Built-up tool handles may be necessary to achieve success in beginning grasp.

Initial occupational therapy for ideokinetic and ideational apraxia require simple, uncomplicated activities as these individuals cannot follow instruction. The ideokinetic apraxic can perform simple movements but not those which require a sequence of muscular activity. It may be necessary to begin treatment of this individual by having the therapist perform the motion and the individual imitate it. The therapist may have to manually guide the individual's arm and hand through the motion.

The ideokinetic's idea and motor patterns are intact, the pathway connecting them is interrupted. Thus it is the formation of new association patterns toward which the treatment is directed. This individual can perform but does not know how.

The ideational apraxic can also perform simple movements but cannot combine these into a purposeful plan. This individual's ideation is not sustained, and his actions are those of extreme absent-mindedness. He needs careful guidance on a one-step level or one proposition at a time. Only when that level or proposition is thoroughly assimilated can the next step be added. Confusion and frustration result when this individual is confronted with more than he is capable of remembering at one time. This individual can perform but forgets to do so.

Agraphia when related to apraxia may manifest itself as a difficulty in which the individual is unable to recall how to form words or letters in script or printed style. Treatment for the kinetic agraphic would be directed toward the reestablishment of grasp and writing patterns. Initially this treatment would follow that given for the non-verbal apraxic.

The agraphic with the ideokinetic apraxia has an adequate grasp but fails to recall how to form letters or words. Work is begun with the muscular movements used in writing. Teaching a coordinated, forward circular motion might be initiated by the use of finger painting. The blackboard can also be used and the agraphic individual can either trace over letters drawn by the therapist, or use the letters as a guide for copying. Both script and printed letters should be taught. The therapist may have to guide the individual's hand as beginning movements are learned.

Use of a blackboard is beneficial as the letters can be made large and are more easily formed. Work should be shifted to a writing board or desk, as soon as possible as this is the most usual or natural pattern for writing. As in beginning writing with children, the letters should be large and both writing and printing be done on lined paper. The use of words should be initiated as soon as letter formation can be performed fairly distinctly.

ANOMIA. Teaching the adult aphasic to identify and name objects is very similar to developing speech patterns in a child. It is useful to begin naming objects that are not only common to everyday use but those that can be grouped together as units. Having items of similar purpose provides, in many instances, association which may aid the individual in naming. Examples of units which can be utilized are: bacon, egg, coffee, cream, sugar, bread and butter; hat, coat, pants, shirt, tie, shoes, socks; bed, pillow, sheet, blanket; head, eyes, nose, mouth, ears, hair; etcetera. These units can be demonstrated as objects for tactile association and pictures of them are easily acquired.

The therapist displays the object together with a picture and the individual attempts to name it. If the aphasic is unsuccessful, the name of the object is printed and written on the blackboard as the therapist names it. It is unwise to drill on the same object or name over too lengthy a period. There should be a slightly different approach for the next object to be learned as this will lessen fatigue and sustain the aphasic's interest.

Many times an aphasic will fail to identify an object but will succeed if an approach other than direct naming is used. For example: a ring can be shown to an individual who will probably reply, "It is something you wear on your finger." A correct naming of the object may be accomplished by asking the individual, "What did you put on your wife's finger the day you were married?" "A ring, of course!"

After the individual has been successful in naming a few objects and their associative words, these should be included in a simple sentence. A naming drill for review purposes should be done frequently by presenting the objects having the individual name them.

To name and identify objects is a slow process and necessitates patience and understanding on the part of the therapist. In some instances the individual is stimulated to learn by presenting objects and pictures from his profession or hobby rather than the more useful names of everyday items. In other instances this focus proves frustrating.

Books which have proved valuable in the re-education of the anomic aphasic are: What's Its Name, Speech Through Pictures, My First Dictionary, and the Golden Dictionary. The preferred of these is What's Its Name.

Pronouns, adjectives, adverbs, articles and prepositions are more easily learned at a later date. As was suggested previously in the section under verbal apraxia, their positioning and use can be learned through sentence exercises.

PARAPHASIA This disability of language formulation is one of the most difficult to overcome as the therapist not only has to build correct symbolic speech but also has to discourage the nonsensical pattern with which the individual has been expressing himself. The individual has to be taught to speak slowly and distinctly. He has to be taught phonetic speech sounds for auditory discrimination and recognition of error (pie, tie, die, lie, etc.) Sometimes the individual is asked to describe a short paragraph which he has read. A device is needed to help him organize his thinking. The individual may be given just the noun to which he adds the verb for completion of a simple sentence. The use of recordings may prove useful in aiding the individual toward recognition of his use of unnecessary phrases and excessive wordage.

ACALCULIA The aphasic individual in a hospital need not deal with numbers each day as the hospital routine is more or less easily pursued. However numbers are a part of our every-day living: in knowing what time it is, how to make change, etcetera. Some individuals have trouble recognizing numbers, mathematical signs, values of different coins, or have lost the ability to count objects or to measure distances. These individuals have to be taught along the lines that their area of difficulty indicates, and if necessary, beginning arithmetic is taught for number concepts.

Any elementary arithmetic book is useful for a beginning in this area. Some of the more frequently used ones are listed in the bibliography. Counting can be learned with a number of objects such as pennies, blocks, cigarettes, etcetera. Arithmetic readiness cards are available for practice in subtraction, addition, multiplication and grouping. These are available in sets for different grade levels. Drill books are excellent for outside practice.

Play clocks have been designed for teaching time and are available in toy departments. Banking is another activity that can be practiced by the use of blank checks, deposit slips, withdrawal slips, etcetera. Numbers are used not only for the amounts, but also for dates and addresses. Drills should be held periodically to strengthen and supplement what is being learned.

The activities in which an aphasic individual must be reeducated are rarely singular. Speech, writing and reading difficulties are usually simultaneous and the reeducation process embodies all of them in the training program. The emphasis, as with a nonverbal apractic, is placed on learning to articulate, but the written consonant on the blackboard, the aphasic's copying or tracing it, his use of it in a simple word, are all a part of the total approach. Associations in the learning process are constantly utilized for reinforcement. Auditory visual and tactile stimuli are used interchangeably to maintain the aphasic's interest. The aphasic's interests are explored to find a more suitable approach if the usual approaches to the learning situation are not productive."

In spite of the fact that a brain-injured child may be of average or above average intelligence his learning processes, because of the injury, will be slowed down. Therefore, in order to provide the learnings he must have, the course of study must be set up in terms of the most significant items of learning which the child will need to satisfy his life needs.

In following the course of study herein suggested for mentally retarded and brain-injured children it is suggested that the teacher of the brain-injured child put to use the specific teaching procedures in the section entitled Techniques for Teaching the Brain-Injured Child.

Only when a brain-injured child has reached such proficiency that he can keep up with regular assignments based on a course of study for a class of children with normal intelligence should an attempt be made to give him a regular course of study.

PRE-ACADEMIC - Course of Study

Playing a game: "The game of tag" ... a puzzle, we organize, you and me, who,

Playing a game in which several articles are mentioned to be put in ... "Can you find the right place for" ... this book, this coat, etc.

Putting things in their proper place

Putting things away after work period

Putting up signs with pictures on them to show where things belong

Learning to work in a certain place in terms of materials located or used there

Setting up standards for work and play areas and

We use pictures of the long table.

We use the toy blocks in the playhouse.

Setting up standards for cleaning up work and play areas and

We stack the blocks on the shelf.

We fold up coats and put them in our lockers after rest period.

Pre-Academic Levels

Social and Natural Sciences

Major Problem I: What do we need to know about our school so that we may work and play happily together?

Sub-Problem A: How can we get acquainted with our room?

Understandings	Experiences	Techniques
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There are places to keep our things:

Showing the children individually or in small groups as they arrive where things are

clothing

Taking the group on an informal tour of the room to see where things are kept

books

Playing a game: "Can you find" ... a puzzle, the crayons, your mat, etc.

puzzles

toys, blocks

Playing a game in which several articles are assembled to be put away: "Can you find the right place for" ... this book, this coat, etc.

paints, paper, crayons, scissors, paste

Finding things at work period

things brought to share

Putting things away after work period

finished work

Putting up signs with pictures on them to show where things belong

mats

VI

There are places for work and play:

Choosing to work in a certain place in terms of materials located or used there

tables for books, puzzles, and crayoning

Setting up standards for work and play areas as:

paint easels

We use puzzles at the long table.

doll house corner

We use the toy dishes in the playhouse.

water play

Setting up standards for cleaning up work and play areas as:

blocks, wheel toys

We stack the blocks on the shelf.

sitting for circle and group work

We fold our mats and put them in our lockers after rest period.

rhythms and games

resting

snack time

Pre-Academic Levels

Major Problem I: How can we work and play happily together?

Sub-Problem A. How can we get acquainted with our room? (cont'd.)

Understandings	Experiences	Techniques
There are interesting things to watch and care for:	Bringing a pet to school to show the class	
	Keeping a rabbit at school for a few days	
pets -- fish, rabbits, chicks, etc.	Planting bean seeds to watch them sprout	
	Collecting interesting leaves and seed pods	
plants growing	Bringing shells or other collections	
science collections	Checking a certain bulletin board each morning to discover a new picture or pictures	I
bulletin board displays	Telling about the picture during talking time	
	Examining interesting things on the sharing table which classmates have brought to show	
Lavatories and drinking fountains are for our comfort and have a proper use.	Going with an older student to the lavatory and fountain	
	Learning how to wait in line	
	Setting up standards for the use of lavatories and fountains	
	Following a routine	
	Learning that the clock tells when it is time to go for a recess	

Pre-Academic Levels

Major Problem I: How can we work and play happily together?

Sub-Problem B: What other parts of our school do we need to use?

Understandings

Experiences

Techniques

There are certain entrances and exits for us to use.

Practicing the correct usage day by day and knowing why it is important:

the door to come in

the door to go out, as for lavatory, play, to go home, fire drill

Some classes do not have lavatories and fountains in the room.

Setting up standards for use of lavatories and fountains not in room

where to go

how to go

when to go

The playground is for us to enjoy.

Learning that we go out to play after a certain activity

Learning that the clock tells us when we go out to play

Having a turn to see each piece of equipment used correctly

Having a turn to use each piece of equipment with help and supervision

Calling each piece of equipment by the correct name, as "I want to climb on the jungle gym."

The cafeteria provides our lunch. We must be clean to go to the cafeteria. There are certain ways to get our food, eat our food, clear our trays, leave the cafeteria.

Going on a trip to see the cafeteria to find out:

where it is

watching other children use the cafeteria

finding out how to get ready, clean up, wash hands, and form lines

learning the names of the things we use — tray napkins, silver, straws

III

Pre-Academic Levels

Major Problem I: How can we work and play happily together?

Sub-Problem B: What other parts of our school do we need to use? (cont'd.)

Understandings

Experiences

Techniques

Learning that we go to lunch when the clock says

Practicing handling a tray and milk for snack time when cafeteria is not in use

Having two older children help at lunch time

Setting up standards on use of cafeteria (These will vary depending on class needs.)

Practicing things we do:

Clean up, wash hands.

Wait in line, go quietly.

Get a tray and carry it.

Choose our food.

Choose needed silver, napkins, and straws.

Pay for our food.

Go to our table.

Say grace when everyone is ready.

Use good eating habits.

Handle milk carefully.

Talk quietly with our friends.

Finish our food.

Wait until the others are finished.

Return our tray (or clean and return).

Asking for help in:

keeping our money

choosing food

carrying heavy trays

Pre-Academic Levels

Major Problem I: How can we work and play happily together?

Sub-Problem B: What other parts of our school do we need to use? (cont'd.)

Understandings

Experiences

Techniques

The principal's office
is the place to go when
we have important
problems.

Taking a walk to see where the principal's
office is located

Discussing the need for a trip to the principal's
office:

when to go

what to say

what to do when errand is completed

Dramatizing situations in which a trip must be
made to the principal's office, as:

V

an errand for teacher

reporting a lost article

Pre-Academic Levels

Major Problem I: How can we work and play happily together?

Sub-Problem C: Who are the people at school who help us?

Understandings	Experiences	Techniques
There are many people who work together to make our school a good place to be:	Planning and taking class trips to visit school persons (one at a time) to find out how they help us	III
principal secretary teacher classmates cafeteria manager school nurse janitor	Dramatizing the role of each in play situations — you be the nurse, principal, janitor. What will you say?	V
	Making a short story (chart) to tell how each school person helps us	IV
	OR	
	Drawing pictures to show each school person at his work	I

Pre Academic Levels

Major Problem I: How can we work and play happily together?

Sub-Problem D: What are some things about coming to school to remember?

Understandings

Experiences

Techniques

It is important to get to school safely and on time and to return home promptly and safely when school is over

Learning rules for getting to school safely

Dramatizing in the classroom with props, the rules to be remembered

V

Patrols show us when and how to cross streets and board buses.

Making a school house of blocks or boxes

We must leave home early enough to arrive at school on time

Making a school bus of chairs, boxes, paper, and a steering wheel

We must arrive at school at the right time

Making a stop light from a pasteboard box to hang from an overhead fixture by a string

We must come into our room promptly (when the bell rings, door is open)

Drawing streets on the floor with chalk

Making paper hats for policemen and belts for patrols

We do things at school at certain times

Using a pasteboard clock with moveable hands to show when it is time for each part of activity

We go home when the clock says _____

Some parents call for children

Some children must walk directly home

Some children ride on buses

Identifying each bus used by children in class:

Safely waiting, getting on, getting off

by number and route

by location for boarding

by departure time

Pre-Academic Levels

Major Problem II: What do we need to know about clothing?

Sub-Problem A: What clothes do we need for school and how do we take care of them?

Understandings	Experiences	Techniques
We need many kinds of clothes for school	Naming the clothing worn by certain children during showing period	
dress to cover our bodies	Singing songs as, "Johnny wears blue pants, blue pants all day long" as Johnny comes up to show what he is wearing. Vary song to include textures, colors, etc., as: Johnny has a thick wool coat."	
shoes to protect our feet etc.		
Clothing needed on:		
chilly days	Playing a game in which one child comes up for us to see what she is wearing. Then she hides. Each child guesses as, "She has brown shoes on her feet," or "A blue dress covers her body."	VI
cold days		
hot days		
rainy days		
favorite clothes for special school occasions	Pantomining dressing for a cold day, rainy day, etc.	V
We must take good care of our clothes	Practicing consistently established standards of correct care of clothing, with guidance and supervision as long as it is necessary:	
	Hanging on hook or hangers	
	Putting clothes away as soon as we take them off	
	Putting on and taking clothes off carefully	
	Having all clothes marked	
	Wearing smocks when we paint	
	Taking home each day what we wear	
	Changing to play clothes at home	
	Putting clothes away at home when we change	
	Cleaning off mud	
	Drying wet clothes	

Pre-Academic Levels

Major Problem II: Clothing

Sub-Problem B: How can we learn to dress and undress ourselves?

Understandings	Experiences	Techniques
There are right ways to fasten and unfasten clothes	Practice activity suggested in the Guide for <u>Teachers of Severely Retarded Children</u> , <u>Motor Development</u>	
There is a system for putting on and taking off clothes	Doing for oneself consistent with the time and guidance needed buttoning zipping fastening snaps tying laces, bows, sashes, ties, etc. Learning to distinguish: front back left right wrong side right side Practicing turning clothes right side out	
Best ways to take off clothing	Listing on chart steps in putting on coats, gloves, snow pants, galoshes, shoes, etc. Collecting pictures to show how to put on or take off clothes	I

Pre-Academic Levels

Major Problem II: Clothing

Sub-Problem C: Where do we get our clothing?

Understandings	Experiences	Techniques
Our clothes are bought at stores	Cutting out pictures of clothing stores (if possible the ones at which we buy) to paste on chart	I
Kinds of stores	Talking about new clothes	VIII
Names of towns where we shop	Telling where they were bought	
We receive some clothes as gifts	Showing new clothes that were received as gifts	
	Listening to stories as "The New Red Shoes"	
Some animals give us clothes	Finding pictures of animals and plants that give us clothing for a chart	I
Some plants give us clothes	Listening to stories as "Pelle's New Suit"	

P. Academic Levels

Major Problem III: What do we need to know about food?

Sub-Problem A: What can we learn about food at snack time?

Understandings	Experiences	Techniques
Some foods are best for snack time	Planning snack time	
fruit milk fruit juice crackers	Deciding what food to bring	
	Finding out how to get milk at school	
These foods are best because they are healthful, not too filling, easy to serve	Bringing money for milk	
	Discussing healthful foods at snack time	VIII
Many foods are fruits	Setting up standards for snack time	
Name, size, shape color	Choosing and doing jobs at snacktime	
We buy them at _____	Practicing consistently the standards for getting ready, eating, and cleaning up with as much guidance as needed	
We get our milk from Milkman, stores, dairy cows	Coloring pictures of different kinds of fruit	
Milk makes us grow and other young need milk to make them grow:	Making fruit of clay	
calves pigs kittens etc.	Seeing a filmstrip and latern slides on milk	VII
	FS 765 - The Story of Milk	
We must work together to get ready and enjoy snack time	LS 2115 - Cows and Milk	
Tables, hands, food		
proper eating habits		
size of bites, chewing		
drinking		
Desirable conversation at table		
Cleaning up and putting equipment away		

Pre-Academic Levels

Major Problem III: Food

Sub-Problem B: How will eating at the cafeteria help us to know and enjoy many foods?

Understandings	Experiences	Techniques
The cafeteria serves our lunch	Visiting the cafeteria to find out:	
We may buy a plate lunch with milk	What food is served	
We may buy soup and sandwiches	What procedures to follow in the cafeteria	III
We may buy milk and ice cream	Manners in the cafeteria	
We must have money to buy food	Recognizing time to go to cafeteria on clock's face	
We must bring _____ each (day or week) to buy (plate lunch, ice cream, etc.)	Practicing:	
We must _____ our money so that it will not be lost	getting ready	
The cafeteria serves many kinds of foods:	forming a line	
kinds of fruits	getting a tray, silverware, straws	
vegetables	choosing food	
meats	carrying tray	
deserts	saying grace	
We learn to like new foods by:	handling milk	
being willing to try them	using a straw	
eating small helpings many times	Practicing how to take small bites, chew with mouth closed, drink and eat quietly, finish food without playing	
eating them without a fuss	Practicing how to open a thermos and pour liquids brought from home	
There are many things for us to learn about eating in a cafeteria	Practicing how to handle sandwiches	
	Practicing how to eat without being wasteful	
	Dramatizing how to take care of accidents	V

Pre-Academic Levels

Major Problem III: Food

Sub-Problem B: How will eating at the cafeteria help us to know and enjoy many foods?

Understandings

Experiences

Techniques

We eat some foods with our hands

We eat other foods using spoon, fork, knife

There are desirable things to talk about at the table

We leave the table when everyone is ready

We return and clear the trays

Be proud to be a courteous member of your group

Demonstrating:

leaving the table

returning and clearing

the trays

courtesy

II

Pre-Academic Levels

Major Problem III: Food

Sub-Problem C: What are the important foods for us to eat at home?

Understandings	Experiences	Techniques
We all have favorite foods	Making a painting or drawing of my favorite fruit	I
We must eat many kinds of foods	Selecting, cutting, pasting pictures to make charts, or booklets to show a good breakfast, lunch, dinner	I
A good breakfast	Making a poster showing a large bottle of milk with lines drawn to pictures of pretty teeth, strong bodies, etc.	I
A good lunch		
A good dinner	Listening to stories about foods that are good for us	
Plenty of milk		
Candy after meals		
Between meal snacks		
Fruits and milk		

Pre-Academic Levels

Major Problem III: Food

Sub-Problem D: Where do we get our food?

Understandings	Experiences	Techniques
Many people work to supply us food:	Discussing where we buy our food	VIII
grocers	Seeing the film F 84 "Food Store"	VII
butcher	Displaying pictures of the people who work to supply our food	
baker	Making a chart with the picture of each worker listing the things he supplies	I
farmer		
dairyman		
Many plants give us food:	Planning and taking a trip to visit a grocery store, bakery, dairy, to see the people who work and the products they supply	III
fruits - size, color, shape	Making flash cards with pictures of foods and playing a game. The child who is the baker must recognize and claim the pictures that belong to him	VI
vegetables - size, color, shape		
Many animals supply us food:	Sorting the cards as to whether they are dairy products, etc.	
cows - beef	Making a booklet showing pictures (from a seed catalogue) of the plants that give us food	I
hogs - pork	Seeing the film F 201 "Farm Animals"	
fish	Recognizing animals that give us food	
chicken	Making a picture poster showing pictures of meat and animal products that are food	I

Pre-Academic Levels

Major Problem IV: What must we do in order to keep healthy and safe?

Sub-Problem A: How can we keep healthy through proper rest?

Understandings

Experiences

Techniques

Good rest habits at school
help us to relax

Practicing good rest habits at school:

put mats down quickly

lie in comfortable position

avoid playing or talking with neighbor

Playing that we are rag dolls

Playing that we are sleeping

Listening to soothing records

Listening to stories about things to
watch out of door - ants, bee, birds,
etc.

Good health habits should
be practiced at home

Listing quiet activities after active
play

Looking at a book, listening to records,
coloring in a quiet room

Resting on dry grass in summer and watch-
ing birds and insects

Accepting bedtime cheerfully

Remaining quietly in bed without playing

Making a list of ways to help when we
get ready for bed

Dramatizing being sick in bed with
patient, mother, and doctor, showing
the role of each

Learning to make things which can be made
in bed as paper cut-outs, bead stringing

Bringing to share games or toys that are
fun to do in bed

I

V

Pre-Academic Levels

Major Problem IV: Health and safety

Sub-Problem A: How can we keep healthy through proper rest?

Understandings

There are rules to follow
if we are ill

Experiences

Learning rules to follow if we are ill:

it is best to remain in bed if we are
ill

the doctor will tell us what we must
do in order to get well

our parents or nurse will show us how
to do what the doctor says

there are many interesting things to
do while recuperating

Techniques

Pre-Academic Levels

Major Problem IV: Health and safety

Sub-Problem B: How can we prevent diseases?

Understandings

Experiences

Techniques

Germes make us ill

We cannot see germs

There are things we can do to keep from getting germs

Listening to stories from primary health texts and library such as "Johnny Microbe"

Keeping Kleenex in school and using it correctly

Using Kleenex as handkerchief, covering a cough or wiping nose

Practicing good health habits in school and understanding why

Using properly individual towel

Using properly drinking fountain

Using clean glass, spoon

Keeping our body clean

Washing hands before eating

Protecting eyes, nose, mouth from:

pencils
rocks
sharp objects
dirty fingers

Sanitary habits -- avoid sharing bites, food from floor, handling dirty things

Seeing film showing good health habits

VII

We may get germs from other people

Learning what communicable diseases are and that we should stay away from them

We stay away from playmates when we have germs

Pre-Academic Levels

Major Problems IV: Health and safety

Sub-Problem C: How can habits of cleanliness help to keep us healthy?

Understandings	Experiences	Techniques
To be developed		
<u>Clean bodies are healthy</u>	Making a bulletin board display of pictures showing what we should do in order to keep clean	I
Keep own toothbrush in right place in bathroom to use night and morning	Demonstrating correct way to brush teeth	II
There is a correct way to brush teeth	Practicing combing and brushing own hair before mirror	
There is a correct way to care for hair	Keeping individual records on a printed form:	I
Clean nails with brush	brushing hair	
Wear clean clothing	brushing teeth	
	weekly shampoo	
	daily bath	
	clean nails	
	clean clothing	
	Practicing washing hands correctly at school	
	Making a hand-turn movie showing steps of things to do in order to get ready for school	
<u>A clean environment helps to keep us clean</u>	Setting up standards for housekeeping	
Housekeeping duties	Cleaning up after work	
	Wastepaper in trash	
	Help clean up after accidents	
	Wash dirty hands	
	Scrape mud off shoes	

Pre-Academic Levels

Major Problem IV: Health and Safety

Sub-Problem C: How can habits of cleanliness help to keep us healthy?

Understandings

Experiences

Techniques

Setting up standards for housekeeping
(cont'd.)

Sweep up crumbs

Everything in its proper place

Dust proper way

Flush toilet after use

Wash out basin

Having duties for clean-up

Having a captain to check duties

Displaying a good health banner on
days when clean-up chores are well done

Pre-Academic Levels

Major Problem IV: Health and safety

Sub-Problem D: How can habits of safety keep us healthy?

Understandings

Experiences

Techniques

At School

There are safe procedures for:

doors
stairways
halls
drinking fountains
pencils
toys
playground equipment

Discussing the safe ways to use:

playground equipment
toys
pencils
scissors
doors
stairways
halls
drinking fountains

VIII

There are safe procedures for:

fire drills
bus loading and unloading
entering and leaving a car
crossing streets

Setting up standards for safe use of the above

Keeping a safety chart which is checked everyday to see how well all rules have been followed

Practicing many times, both in class and outside the procedure for drills, crossing streets, etc.

Pre-Academic Levels

Major Problem IV: Health and safety

Sub-Problem E: What makes the things we do seem important and fun?

Understandings	Experiences	Techniques
We feel happy:		
when we get along well with others	Making and displaying a clown to represent each child. On one side is a happy face for a good helper. On the other side is a sad face. When a child is having difficulty, turn the sad face up.	I
when we appreciate efforts of others	Ask the child to come up and turn the sunny side up when his job is done or his problem settled	
when we show proper consideration of others	Discussing freely the way we feel and why	VIII
when we feel safe	Finding the real reason why we do the things we do	
when we know what is expected of us	Dramatizing situations in which we show tolerance	V
when we know we are doing our part		
when our classmates ask us to join their work or play		
when we can decide how to solve a problem without crying or fighting		
when we can choose games that everyone will enjoy		
when we can share without feeling "mean" about it		
when we have learned tolerance		
when we know the difference between making fun of others and enjoying a laugh with others		

Pre-Academic Levels

Major Problem IV: Health and safety

Sub-Problem E: What makes the things we do seem important and fun?

Understandings	Experiences	Techniques
We can get over being afraid:	Discussing things that make us afraid	VIII
when we know what we are afraid of	Dramatizing situations as: the little boy is playing in his room. He hears a strange noise. What should he do?	V
when we understand why we are afraid	the little girl wakes up at night and is afraid. Why? What should she do?	
when we know what to do about things that frighten us	Telling about real experiences	
when we understand about being cautious	Making up funny stories that are make believe	
when we are sure what will happen	Listening to make believe stories	
when we know what things are real and what are make believe	Guessing when things are true or false, as, Jane has on a green dress today. It is raining outside.	VI
when we learn how to do things better	There are five blocks in this box.	
when we know what things we should try to do	Making up a story and dramatizing going to the dentist, to the doctor	V
when we know when things are true	Visiting a dentist's office to have him show and demonstrate his equipment	III
when we understand how people help - as doctor, dentist, etc.		

Pre-Academic Levels

Major Problem V: How can caring for a pet help us to learn how to be better citizens?

Sub-Problem A: Why do we want a pet?

Understandings	Experiences	Techniques
Everyone wants something alive to love and care for	Telling about pets at home	
	Bringing pictures of our pets to school	
grown-ups want children to love and care for	Making a display of the pictures	I
children learn to be good grown-ups by loving and caring for pets	Seeing the film F 145 "Care of Pets"	VII
	Discussing the film	VIII
Pets need us	Seeing it again to find out the names of all kinds of pets shown	
Everyone wants to be needed		
It is fun to watch the things pets do		

Pre-Academic Levels

Major Problem V: Caring for a pet

Sub-Problem B: What pet will we choose?

Understandings	Experiences	Techniques
There are many kinds of pets:	Looking at animal books to see kinds of animals that make good pets	
dogs - cocker, boxer, dalmation, collie, etc.	Cutting pictures of pets out of magazines	
cats - Persian, Maltese	Making a book of the pictures or display	I
birds - parakeet, canary, etc.	Discussing kinds of pets that we could have at school	VIII
fish - guppies, goldfish, angelfish, etc.	Listing advantages and disadvantages	
turtles - painted, box, land, etc.	Deciding on what pet to get	
rabbits - white, grey, brown	Making a list showing what the pet will need, to see if we have made a wise choice	
Pets cost money	Seeing the film again (if it applies) to find out how we will care for our pet	
We must choose a pet that we can get	Finding out how to get the pet	
We must choose a pet that will be happy with us.	Getting cage, food, etc., ready for the pet	
Dogs and cats will not be happy to stay in the classroom all day	Getting the pet	
	Setting up standards for caring for the pet	

Pre-Academic Levels

Major Problem V: Caring for a pet

Sub-Problem C: How can we take care of our pet?

Understandings	Experiences	Techniques
The pet will need a home	Looking at books to find what kind of home we need for our pet	
Our pet will need _____		
The pet will need food	Finding pictures of pets being cared for	
We must make plans for getting the right kind of food regularly	Collecting and displaying pictures Making a list of all needs	I
The pet will need daily care	Providing the home for our pet by making it	
We each have a job to do	by ordering it if necessary	
We take turns in caring for our pet	by using equipment in the room	
We will have times to watch our pet	Making a "duty roster" so each child has something to do for our pet Taking turns at different duties	

Pre-Academic Levels

Major Problem V: Caring for a pet

Sub-Problem D: How can we share our pet with others?

Understandings	Experiences	Techniques
We will invite other children to see our pet	Cutting pictures out of magazines showing pets being shared	
We will tell other children what we learn about our pet	Writing a letter, by dictating to the teacher, to invite other children to see our pet	
We will find a good home for our pet when school is out	Making short talks to the visitors about our pet: what he eats where he lives how we care for it. etc.	
	Finding out where our pet can live when school is out	
	Writing a letter, by dictating to the teacher, to the person who might take our pet	

Pre-Academic Levels

Major Problem VI: How can a study of kinds of homes help us to understand the importance of shelter?

Sub-Problem A: What kinds of homes do birds and animals have?

Understandings	Experiences	Techniques
Animals and birds make homes for their young in order to keep them safe	Looking at books to find out what kinds of homes are made by animals and birds	
Birds and squirrels have nests in trees	Making a collection of magazine pictures showing homes of animals and birds	I
Rabbits have burrows under grass and bushes	Talking about where the birds and animals make their homes and why	
Bears hibernate all winter and have their homes in caves	Finding out what protection animals and birds have in their home	
Domestic animals and pets live in houses we build to suit their needs	Comparing pets' and domestic animals' homes to homes of other animals and birds	
	Talking about the differences of the above	

Pre-Academic Levels

Major Problem VI: Shelter

Sub-Problem B: What kinds of homes do we live in?

Understandings	Experiences	Techniques
People live in many different kinds of homes	Telling about our own homes Finding pictures of homes like the ones in which we live	VIII
We live in _____	Bringing pictures to school of the homes in which we live Finding out that homes are large small low high brick wooden stone bungaloes duplexes two-stories apartments hotels	

Pre-Academic Levels

Major Problem VI: Shelter

Sub-Problem C: Why are our homes important to us?

Understandings

Experiences

Techniques

Our homes protect us
from weather

Collecting pictures of homes in
weather from magazines

Our home gives us a safe
place to eat, sleep, bathe,
dress, rest, work, and play

Talking about homes as they protect
us from:

Our homes give us a place
to live, to work and play
with those we love

cold
heat
rain
snow

VIII

Telling classmates about our homes:

Where we live

The work we do

The games we play

Who lives at home

What the family does together

1940-1941

1942-1943

1944-1945

1946-1947

1948-1949

1950-1951

1952-1953

1954-1955

1956-1957

1958-1959

1960-1961

1962-1963

1964-1965

1966-1967

1968-1969

1970-1971

1972-1973

1974-1975

1976-1977

Pre-Academic Levels

Major Problem VII: What places and workers in our community help us?

Sub-Problem A: How do people in our home help each other?

Understandings	Experiences	Techniques
<p>The members of my family are:</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Telling who lives in our homes</p> <p>Finding out how each member of the family helps by listening</p> <p>Making a chart of how each member helps the family</p> <p>Collecting pictures to illustrate how each member helps</p> <p>Play a question game:</p> <p>"Who helps us by earning money?"</p>	<p>I</p> <p>VI</p>
<p>Each member of my family help:</p> <p>Father works to earn money for us</p> <p>Father takes care of the yard, etc.</p>		

Pre-Academic Levels

Major Problem VII: Community

Sub-Problem B: Who are the people in our community who work to help us?

Understandings	Experiences	Techniques
The store keeper at the store sells us the things we need	Visiting the store to find out how the storekeeper helps us	III
The milkman brings the milk	Talking to the milkman to find out how he helps us	
The farmer grows our food	Planning a visit:	
The postman from the post-office brings our mail	to a nearby dairy	
	to a farm	III
The fireman at the fire house protects our homes from fire	to the Post Office	
	to the firehouse	
The policeman helps us cross the street, keeps us safe	Talking about our visits to tell how we are helped by each kind of worker	
	Asking a policeman to come to tell us about his work	
	Making a collection of pictures of the people we have visited or who have visited us	
	Putting these pictures in a booklet or on the bulletin board with a short story (or sentence) about each one	I
The patrols help us to get to school safely	Learning how to obey the patrols and why they should be obeyed	
Doctors and nurses help to keep us well	Playing a question game to show how doctors, nurses, dentists keep us well	VI
Dentists help us to take care of our teeth		
The people in our church teach us about God	Learning about the different kinds of churches class members belong to and how they teach us about God	

Pre-Academic Levels

Major Problem VII: Community

Sub-Problem B: Who are the people in our community who work to help us?

Understandings	Experiences	Techniques
Other places where people help: gas station garage barber shop cleaners theater, etc.	Playing a matching game -- Matching worker and place of work Making a mural of community helpers by pasting pictures of helpers on teacher made map of community	VI I

1. The first step is to identify the problem.

2. The second step is to analyze the problem.

3. The third step is to develop a solution.

4. The fourth step is to implement the solution.

5. The fifth step is to evaluate the results.

6. The sixth step is to document the process.

7. The seventh step is to communicate the findings.

8. The eighth step is to monitor the progress.

9. The ninth step is to report the results.

10. The tenth step is to conclude the project.

11. The eleventh step is to reflect on the experience.

12. The twelfth step is to share the knowledge.

13. The thirteenth step is to celebrate the success.

14. The fourteenth step is to learn from the mistakes.

15. The fifteenth step is to plan for the future.

16. The sixteenth step is to maintain the momentum.

17. The seventeenth step is to stay motivated.

18. The eighteenth step is to seek support.

19. The nineteenth step is to be persistent.

20. The twentieth step is to achieve the goal.

21. The twenty-first step is to enjoy the journey.

22. The twenty-second step is to be grateful.

23. The twenty-third step is to be humble.

24. The twenty-fourth step is to be resilient.

25. The twenty-fifth step is to be optimistic.

26. The twenty-sixth step is to be confident.

27. The twenty-seventh step is to be brave.

28. The twenty-eighth step is to be kind.

29. The twenty-ninth step is to be honest.

30. The thirtieth step is to be true.

31. The thirty-first step is to be real.

32. The thirty-second step is to be natural.

33. The thirty-third step is to be simple.

34. The thirty-fourth step is to be direct.

35. The thirty-fifth step is to be clear.

36. The thirty-sixth step is to be concise.

37. The thirty-seventh step is to be precise.

38. The thirty-eighth step is to be accurate.

39. The thirty-ninth step is to be reliable.

40. The fortieth step is to be trustworthy.

41. The forty-first step is to be credible.

42. The forty-second step is to be believable.

43. The forty-third step is to be plausible.

44. The forty-fourth step is to be reasonable.

45. The forty-fifth step is to be logical.

46. The forty-sixth step is to be rational.

47. The forty-seventh step is to be sensible.

48. The forty-eighth step is to be practical.

49. The forty-ninth step is to be feasible.

50. The fiftieth step is to be achievable.

51. The fifty-first step is to be attainable.

52. The fifty-second step is to be possible.

53. The fifty-third step is to be probable.

54. The fifty-fourth step is to be likely.

55. The fifty-fifth step is to be probable.

56. The fifty-sixth step is to be likely.

57. The fifty-seventh step is to be probable.

58. The fifty-eighth step is to be likely.

59. The fifty-ninth step is to be probable.

60. The sixtieth step is to be likely.

61. The sixty-first step is to be probable.

62. The sixty-second step is to be likely.

63. The sixty-third step is to be probable.

64. The sixty-fourth step is to be likely.

65. The sixty-fifth step is to be probable.

66. The sixty-sixth step is to be likely.

67. The sixty-seventh step is to be probable.

68. The sixty-eighth step is to be likely.

69. The sixty-ninth step is to be probable.

70. The seventieth step is to be likely.

71. The seventy-first step is to be probable.

72. The seventy-second step is to be likely.

73. The seventy-third step is to be probable.

74. The seventy-fourth step is to be likely.

75. The seventy-fifth step is to be probable.

76. The seventy-sixth step is to be likely.

77. The seventy-seventh step is to be probable.

78. The seventy-eighth step is to be likely.

79. The seventy-ninth step is to be probable.

80. The eightieth step is to be likely.

81. The eighty-first step is to be probable.

82. The eighty-second step is to be likely.

83. The eighty-third step is to be probable.

84. The eighty-fourth step is to be likely.

85. The eighty-fifth step is to be probable.

86. The eighty-sixth step is to be likely.

87. The eighty-seventh step is to be probable.

88. The eighty-eighth step is to be likely.

89. The eighty-ninth step is to be probable.

90. The ninetieth step is to be likely.

91. The ninety-first step is to be probable.

92. The ninety-second step is to be likely.

93. The ninety-third step is to be probable.

94. The ninety-fourth step is to be likely.

95. The ninety-fifth step is to be probable.

96. The ninety-sixth step is to be likely.

97. The ninety-seventh step is to be probable.

98. The ninety-eighth step is to be likely.

99. The ninety-ninth step is to be probable.

100. The hundredth step is to be likely.

Pre-Academic Levels

Major Problem VIII: How may we travel?

Sub-Problem A: How may we travel to near-by places:

Understandings	Experiences	Techniques
We travel when we go from one place to another	Learning the different ways we have travelled to near-by places Collecting pictures from magazines	
There are many ways to travel	Ways to travel short distances that we have used, as:	
When we travel to near-by places we may: walk ride bikes go on skates ride in car ride in taxi ride in bus	walk ride bikes skates ride in car ride in taxi ride in bus ride in streetcar Playing games to identify ways to travel short distances	I

Pre-Academic Levels

Major Problem VIII: Travel

Sub-Problem B: How may we travel to far-away places?

Understandings	Experiences	Techniques
We may travel to far-away places in automobiles, buses, trains, airplanes, boats	Collecting pictures to show ways to travel far-away: airplane automobiles buses trains boats	
We travel by land in cars, buses, trains	Arrange them to show travel by land air water	I
We travel by air in airplanes		
We travel by water in boats	Planning and making a trip to an airport, railroad depot, boat landing to see the kinds of travel of each	III

Pre-Academic Levels

Major Problem IX: Why and how do we celebrate special days?
(To be developed and used as needed throughout the year.)

Understandings	Experiences	Techniques
Our Birthdays	Recognizing, in order, the special days we celebrate	
The ways we celebrate	Learning the date of the holiday	
Halloween	the season in which it occurs	
The ways we have fun	Listening to:	
Thanksgiving	The story of the Pilgrims and the Indians	
Things we are thankful for	The Christmas story	
Christmas	Stories about A. Lincoln	
Sharing at Christmas time	Stories about George Washington's boyhood	
Care of our toys		
Valentine's Day	Making and sending cards in celebration of some holidays	
Pleasures brought to others	Christmas Valentine's Day Easter Birthday of classmates	
Abraham Lincoln's Birthday	Planning and giving a party to celebrate a holiday and inviting guests	
Who A. Lincoln was	Telling others what we have learned about the holidays	
George Washington's Birthday	Playing question games about the holidays as:	VI
Who George Washington was	What holidays come on the last day of October?	
Mt. Vernon and Washington, D. C.		
Meaning of our flag		
Easter	Using picture cards showing holiday customs - mix several together - child must find appropriate pictures for certain holidays	I
Ways we celebrate	Seeing films and filmstrips related to holidays as they occur during year	VII

What do we want to know about this part of our program of living?
How can we get a better knowledge of the purpose and correct use of the school, especially how to be good about school?

What we want to know	How we can get it	What we can do
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What is the purpose of the school? What are the things we should know about the school? What are the things we should do about the school?

ACADEMIC - Course of Study

What are the things we should know about the school? What are the things we should do about the school?

What are the things we should know about the school? What are the things we should do about the school?

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What are the things we should know about the school? What are the things we should do about the school?

Major Problem I: What do we need to know about food as a part of our program of living?

Sub-Problem A: How can a better knowledge of the purpose and correct use of the school cafeteria help us to learn about foods?

Understandings	Experiences	Techniques
Cafeterias are equipped to store, cook, serve, and preserve foods and to dispose of wastes.	Planning to visit the school cafeteria to see how it is equipped for cooking; for storing perishable foods, canned foods, utensils, cutlery, dishware, and other equipment; for washing dishes, for serving foods; and for disposing of wastes	III
	Discussing the trip	VIII
	Taking the trip	
	Writing developmental stories about the trip to record the things observed, such as: how the food is kept hot; how the food is kept cold; how garbage is disposed of; how the cafeteria is kept clean; how the cafeteria is made attractive; and how the cafeteria manager works	IV
	Making pictures to illustrate activities and equipment observed in the cafeteria	
	Making a bulletin board display or booklet of the pictures	II
	Evaluating pictures in terms of content	
Procedures must be standardized so that time will be saved and order maintained, as:	Listing the problems that we will have to solve to get our lunches at the cafeteria	
	Establishing procedures to be followed by discussing what we should do. (Emphasize courtesy and cooperation.)	VIII
	Writing the directions for each procedure on class charts	
	Reading the directions aloud	
	Writing the standards for each procedure in a booklet and illustrating the procedures	
	Following the directions	
washing hands		
forming lines		
getting trays		
selecting food		
paying for food	Evaluating how well we followed the directions.	

Major Problem I: Program of Living (Cont'd.)

Sub-Problem A: How can a better knowledge of the purpose and correct use of the school cafeteria help us to learn about foods?

Understandings	Experiences	Techniques
carrying trays	Revising the directions if necessary	
disposing of trays, etc.	Obtaining a cafeteria menu for a week and listing all of the different foods served during the week	
There are two classifications of foods:	Listing the foods that we eat which are not on the cafeteria menu	
animal	Dividing the list into animal foods and plant foods	
plant	Doing a relay on the classification of the two divisions of food. (Write the two classifications on the blackboard. Choose sides and have one pupil at a time write one item until each side has named as many foods as it knows.)	
There are seven basic foods that we eat, as:	Naming the seven basic foods	
green and yellow vegetables	Grouping all of the foods that we listed under the seven basic divisions	
citrus fruits	Making a pictorial chart of the seven basic foods	I
other vegetables and fruits	Reading to discover what each food group does for our bodies	
milk and cheese	Listing the things that each of the food groups does for us	
bread, flour, and cereals	Selecting a menu for a lunch and classifying the foods according to the seven categories	
butter, and enriched margarine	Writing riddles about foods	
	Planning a menu for a week that will include the seven basic foods	
	Evaluating the menu	
	Making a picture booklet of foods by collecting and arranging pictures according to classifications and writing captions that tell how the foods help us	I

Major Problem I: Program of Living (Cont'd.)

Sub-Problem A. How can a better knowledge of the purpose and correct use of the school cafeteria help us to learn about foods?

Understandings

Experiences

Techniques

Reading poems about foods
Singing songs about foods (See Bibliography)

Making a poem collection about foods

Evaluating a cafeteria menu that is set up for a week

We evaluate to find out what we have learned and what we should study further.

Playing a question game to evaluate what we have learned about the problem VI

Dramatizing a cafeteria situation in which a group of children enter the cafeteria - going through the line until they are finished eating - using the rules of courtesy and cooperation V

Seeing films and/or filmstrips about food. (See Bibliography). This may be done at anytime the teacher believes it advisable. VII

Major Problem: What do we need to know about food as a part of our program of living?

Sub-Problem B. How can a visit to a food store help us to learn about kinds of foods and how we get them?

Understandings	Experiences	Techniques
There are many kinds of food stores, as:	Discussing the kinds of food stores that there are in our neighborhood such as: grocery stores, bakeries, fruit stands, delicatessens, and super market	VIII
grocery stores		
bakeries	Listing the kinds of stores in the neighborhood	
delicatessens		
fruit stands	Discussing where the stores of the neighborhood are located	VIII
fish markets, etc.		
The location and type of food store depends upon centers of population, parking, competition, etc.	Finding out what things are considered in locating grocery stores, as: convenience in parking; centers of population; busy traffic streets, and competition with other stores	
	Observing the grocery stores in the community to find out the reasons for their locations	
	Drawing a class map of the area where we shop and illustrating the locations of the food stores	I
	Evaluating the location of each of the stores	
	Looking at pictures of grocery stores to find out about the appearance of the store; arrangement of equipment; how foods are displayed; how clerks dress; and how foods are kept from spoiling	III & IV
	Planning a visit to the grocery store to find out equipment for food; kinds of food; arrangement of the store; people who work in the store; process of buying and selling; and delivery service	
	Setting up standards of procedure for the visit	
	Visiting the grocery store	

Major Problem: What do we need to know about food? (Cont'd.)

Sub-Problem B. How can a visit to a food store help us to learn about kinds of foods and how we get them?

Understandings	Experiences	Techniques
	Evaluating the trip in terms of the standards set up	} III & IV
	Listing the kinds of foods seen in the food store	
	Listing the activities seen in the store	
	Asking questions and observing labels, etc., to find out where we get our foods	
	Charting the findings for future reference	IV
	Making pictures of the activities observed in the store	
Different types of stores require different equipment.	Reading descriptions of equipment in the grocery store	
	Reading, observing, and discussing problems related to storage of equipment as:	
	<u>Refrigerators:</u> the size; how they are lighted; how cold they are kept; and how they preserve food	
Store owners must provide equipment to preserve and protect foods.	Discussing the importance of equipment used; to keep food free from dust and dirt; to prevent insects or animals from contaminating the food; and to prevent food from being handled by people	VIII
	Listing the kinds of equipment needed for making sales, as: scales; cash registers; counter; money; sales slips; baskets and carts; telephone; and, price tags.	
	Looking at pictures of sales equipment to see the various types	
	Observing ways stores advertise their goods, as: size and colors of print on posters; use of pictures; use of announcements; use of samples and demonstrators; and advertising in papers	

Major Problem: What do we need to know about food? (Cont'd.)

Sub-Problem B. How can a visit to a food store help us to learn about kinds of foods and how we get them?

Understandings	Experiences	Techniques
Foods must be properly advertised and displayed to sell.	Observing ways in which stores display their goods. Listing the different ways that foods are displayed Making posters to advertise different foods Discussing different systems of delivery service of grocery stores, as: cash and carry systems; buying at store and store delivering to the homes; and ordering by telephone and store delivering Drawing a floor plan, including outside facilities, of a model store that would meet the standards that we learned from our work.	
We evaluate to find out what we have learned and what we should study further.	Playing "Twenty Questions" on facts learned from our visit. Dramatizing a situation in which a group of pupils visit a store - ask questions (pupils), answer them (clerk), using standards of courtesy Seeing suitable films and/or filmstrips on food. (This may be done anytime the teacher believes it advisable.) See Films and Filmstrips at the end of this problem.	VI

Major Problem I. What do we need to know about food as a part of my program of living?

Sub-Problem C. How can setting up and running a food store in our classroom help us to learn how to buy and sell food stuffs?

Understandings	Experiences	Techniques
	Listing all of the things that we can buy at the grocery store. (Review list from Sub-Problem B.)	
	Grouping the list according to the way the materials were grouped in the store that we visited (Sub-Problem B.)	
Plans are made before beginning a project	Planning our class store	VIII
	Discussing methods of building the store	
	Determining ways of getting materials for building the store	
	Determining the location of the store in the room	
	Determining the size of the store	
	Estimating the size of the space to determine the amount of materials needed in building the store	
	Measuring the space to verify the estimate	
	Keeping a record of measurements	
	Looking at pictures of stores to discover such things, as:	
	where the door is placed	
	how large the windows are	
	where to place the signs	
	Deciding upon:	
	materials to be used	
	how we can get them	
	how to care for the materials while we are building the store	

Major Problem I. Food (cont'd.)

Sub-Problem C. How can setting up and running a food store in our classroom help us to learn how to buy and sell food stuffs?

Understandings

Experiences

Techniques

Deciding upon: (cont'd.)

the equipment needed, as refrigerators, shelves, cupboards, bins, and show cases

Looking at pictures to find out about such things as:

the counter	the refrigerator
the chopping block	the scales
the cash register	the display cases

Obtaining the sales equipment by borrowing it or assembling it

Discussing ways to stock the store:

bringing things from home

sending for samples

VIII

getting empty boxes, cans, and wrappers

making things from clay and papier-mache

Making a chart form showing the different classifications of foods with a place to record the names of each different food as it is added to the stock in the store

I

Writing letters ordering free materials

Distributing the work of getting stock

Discussing where each kind of food will be place in the store

VIII

There are many kinds of work to be done in a store

Making a diagram of the store showing where we will put the different items for sale

Placing the stock

Major Problem I. Food (cont'd.)

Sub-Problem C. How can setting up and running a food store in our classroom help us to learn how to buy and sell food stuffs?

Understandings	Experiences	Techniques
	Discussing the kinds of work to be done in the store	VIII
	Listing the various kinds of work to be done	
Every worker has a definite job to do	Finding out the business name for each kind of worker	
	Deciding upon the number of workers of each kind needed in the store and listing them	
	Discussing the qualities important for each kind of worker	VIII
Different people are qualified for different types of work	Making a chart to record the desirable qualities of each kind of worker as brought out in the discussion	I
	Applying for the different jobs	
	Making tentative assignment lists of jobs from which to select the store workers for each day and deciding upon a method of choosing the workers for the day	
	Making clerks' aprons and hats to be worn while waiting on customers	
A job can be learned by <u>doing</u> that "job".	Establishing a school for store workers in which the pupils may get information about store work and may practice the skills necessary to the various positions	
	Learning about:	
	the use of scales	
	reading weights and measures	
	writing weights and measures	
	estimating weights and determine correctness	

Major Problem I. Food (cont'd.)

Sub-Problem C. How can setting up and running a food store in our classroom help us to learn how to buy and sell food stuffs?

Understandings	Experiences	Techniques
	Learning about: (cont'd.)	
	which things are sold by weights	
	which things are sold by measures	
	Making and illustrating a table of weights and measures used in selling in the store	
Handling money correctly requires much practice and patience	Studying the names of coins:	
	counting money	
	writing money	
	make change	
	reading prices	
	figuring costs	
	adding money	
	subtracting money	
	keeping money safe	
	Considering:	
	why prices change	
	why foods are expensive	
	why some foods cost more than others	
	why stores have sales	
	Reading about foods to learn:	
	how to select good fruits and vegetables	
	what to look for when buying candy	
	how to select bread	
	how to select canned goods by brands and sizes	

Major Problem I. Food (cont'd.)

Sub-Problem C. How can setting up and running a food store in our classroom help us to learn how to buy and sell food stuffs?

Understandings	Experiences	Techniques
Good store clerks:	Choosing workers and customers for the store. Dramatizing for visitors	V
keep foods clean	Demonstrating to show:	
show courtesy to customer	waiting on customers to show how to handle foods to keep them clean	
give fair measure	courtesy to customers	II
make accurate change	how to give fair measure	
know the stock	how to be accurate in making change	
	how to know the stock	
	Preparing for the opening day of the store by:	
	making advertising material	
	planning and making souvenirs to be given to customers	
	planning and making door prizes to be given to the customers	
	decorating the store for the occasion	
	making a program of speeches to be delivered at the opening explaining how the store developed	
	making a program of speeches to be delivered at the opening to advertise the departments of the store	
	selecting and learning songs suitable for the opening of the store	
	making invitations for the store opening and sending them to prospective customers	
	preparing refreshments to be served at the opening	

Major Problem I. Food (cont'd.)

Sub-Problem C. How can setting up and running a food store in our classroom help us to learn how to buy and sell food stuffs?

Understandings

Experiences

Techniques

Having the opening of the store

Dramatizing for visitors

V

Playing store — buying, selling ordering, restocking, cleaning, and delivering

Writing, for distribution, to the customers, a store magazine containing:

menus for meals

recipes for preparing foods

riddles and jokes about food

poems about food

informational stories about food

Major Problem I: What do we need to know about food as a part of our program of living?

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings

Experiences

Techniques

A modern kitchen is built and equipped to meet the food needs of the family

Describing the kitchens at home as to equipment used for storing foods, cooking and preserving foods, etc.

IV

Listing the kinds of work which are done in the kitchen

Visiting a home kitchen to see the equipment for cooking and for storing food, etc.

Listing the things in a kitchen which are used for each of the following:

storing cooked foods

storing uncooked foods

preparing foods for cooking

cooking

disposing of waste

cleaning up after meals

keeping the kitchen sanitary

Discussing the qualities of a good kitchen in terms of:

VIII

safety

attractiveness

ease of cleaning

storage facilities

size

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings

Experiences

Techniques

Making a diagram of the child's home kitchen showing:

storage spaces

cooking stove

refrigerator

kitchen sink, etc.

Planning a scrapbook of kitchens and kitchen equipment, using pictures of food preparation, food stored in refrigerators, utensils used in preparing foods, etc.

I

Setting up standards to govern the choice of pictures in terms of:

suitability for kitchen activity

variety of materials

shapes, sizes, colors

Writing a story "The Story of Utensils" for the scrapbook

Good cooking utensils help to retain the vitamins in food

Making a utensils chart showing the organization of utensils as to use, including such things as:

I

cutting utensils

mixing utensils

holding utensils

lifting utensils

scrapping utensils

straining utensils

protecting utensils

baking utensils

frying utensils

grinding utensils

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings	Experiences	Techniques
	Listening to stories about materials from which utensils are made and writing chart stories about them	
	(Copy the stories for the booklet)	
	Finding out how utensils are kept attractive as: aluminum copper pewter granite	
Equipment should be organized or arranged to be easily available when needed	Discussing the arrangement of utensils in the kitchen from these standpoints: appearance convenience cleanliness usefulness	VIII
	Preparing the chapter of the book entitled "Hiding Places in the Kitchen"	
	Discussing the need of having hiding places in the kitchen	VIII
	Listing some of the things which should be kept out of sight when not in use, as: ironing board electric iron broom dustpan vacuum cleaner dust cloths, etc.	
	Getting pictures showing kinds of cupboards planned for this purpose	
	Getting pictures of cleaning utensils, laundry utensils, etc. for the booklet	

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings

Experiences

Techniques

Writing captions explaining the use of the utensils

Explaining why these things are kept in the kitchen

Equipment is needed for keeping the kitchen clean as:

brushes

brooms

mop

garbage pail, etc.

Discussing the kinds of equipment needed for keeping the kitchen clean

VIII

Good equipment and utensils are needed for storing food, as:

refrigerator
cupboards
containers
shelves
bins, etc.

Finding out about food containers in the kitchen and writing the chapter entitled "Food Containers" for our booklet

Describing the kinds of containers used in the home for keeping food

Discussing materials from which food containers are made and evaluating the various kinds as:

VIII

to cost

convenience in use

ease of caring for the food and the container

attractiveness

durability

Learning about the kinds of containers used for different kinds of foods as:

liquids

acid foods

dry foods

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings

Experiences

Techniques

foods which must be kept crisp

vegetables which must be kept cold and damp

Listing the kinds of containers used for different kinds of foods on a chart, classifying them as to usefulness for different purposes, kinds of materials used, size and shape I

Reading to find out about the containers used in early times, as:

gourds

clay pots

hollow logs and stumps

holes in the ground

baskets

Writing stories about early kinds of containers IV

Listing the advantages of modern containers

Visiting places, such as: hardware stores, ten cent stores, dish departments, etc. to find out the cost of different kinds of containers III

Listening to stories to find out how containers are made

Visiting the cafeteria to see what kinds of foods are stored in each of the following: III

the refrigerator

the open shelves

the closed shelves

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings	Experiences	Techniques
	Writing paragraphs telling reasons why storage places must be provided:	
	to keep a supply of food on hand	
	to keep food in good condition	
	for convenience of arrangement so foods will not be in the way	
Foods must be protected from:	Discussing foods which spoil and ways in which they spoil	VIII
dampness	Finding out foods which spoil:	
warmth	when they become warm	
freezing	when they become damp	
dirt	when they become too cold	
insects, etc.	when they become too dry	
	Discussing ways in which foods may be prevented from spoiling, as:	
	storage	
	preservatives, etc.	
	Listing the foods which must be kept dry	I
	Writing a sentence about each of the foods in the list telling a good way to keep it dry	
	Discussing why some foods must not lose their moisture	VIII
There are ways to preserve perishable foods.	Discussing ways of keeping foods from spoiling as:	VIII
	keeping out air	
	using heat	
	using cold	
	using preservatives	

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings

Experiences

Techniques

Making a list of preservatives used in keeping foods from spoiling

Making a picture chart of perishable foods telling how each may spoil

I

Listing foods which decay

I

Listing foods which spoil by souring

Listing the kinds of foods on which mold forms

Planning experiments to show how food is affected by each of the following:

warmth

dirt or dust

insects

moisture

air

Reading to find out why most foods must be covered as:

protection from insects

protection from dust

protection from air

protection from moisture

Making a picture collection of containers constructed for protection of foods

I

Major Problem I: Food (Cont'd.)

Sub-Problem D. How can a study of kitchens help us to learn how to store and use foods wisely?

Understandings

Experiences

Techniques

Foods must be protected from pests to protect the health of the family

Finding information about mice, rats, insects, which visit the kitchen as:

what they look like

their habits

the harm done to food by them

how to get rid of them

how to safely use poison to rid the kitchen of these pests

Collecting pictures of kitchen pests

I

Playing a "Question" game on facts learned from this sub-problem

VI

- Major Problem: What do we need to know about food as a part of our program of living?
- Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings	Experiences	Techniques
	List on a chart the reasons for eating foods which:	I
	aid growth	
	give energy	
	provide warmth	
	regulate bodily functions	
	provide enjoyment	
	protect health	
There are foods which:	Listing foods which apply under each category	
aid growth	Using the chart to help in making menus and in selecting lunches in the cafeteria	I
give energy	Reading to find out how food helps the body grow, etc.	
provide warmth	Making a good breakfast menu	
regulate bodily functions	Reading it and classifying each of the foods under the appropriate heading above (Reasons for eating foods)	
provide enjoyment	Adding this information to the chart	
protect our health	Making a lunch menu and checking it to see if there is something which can be placed under each item on the chart	
Menus for school children are planned to give variety and balance with regard to the seven basic foods.	Evaluating the lunch menus to see if improvement is being made in the selection of lunches	
	Selecting from the chart foods from each division and arranging them in menus for the three meals of the day	
	Collecting pictures and using them to make displays showing balanced breakfasts and balanced lunches	I
	Collecting pictures showing what happens to the body when it does have the right kinds of foods.	

Major Problem: Food (Cont'd.)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings	Experiences	Techniques
There are some people who must give special attention to diet.	Using the weight and height records of the children to find out those who need to give special attention to diet and helping them plan menus using foods prescribed.	
	Discussing ways of providing the materials needed	VIII
	Counting the number of children in the group to get the number of servings needed	
There are ways to increase the amounts of recipes to make needed quantities.	Finding out the number of servings in one recipe and determining the number of times the recipe will have to be increased	
	Finding the exact amount of each ingredient needed and listing it	
	Writing the recipe as it will be used for making the soup	
	Discussing the kinds of meat used for soup and deciding what to use	VIII
Determining the correct portions of food needed eliminates waste.	Estimating the amount of each vegetable needed for the soup and determining the kind and amount of vegetable each child will bring	
	Making a record of the above decisions	I
	Distributing the responsibility of bringing the utensils as needed	
	Bringing in the utensils and discussing the use of each, examining each utensil and experimenting in using it	
	Bringing in the vegetables and examining them to see what needs to be done to get them ready for use	

Major Problem: Food (Cont'd.)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings	Experiences	Techniques
	Classifying vegetables as to the parts that are eaten, as: <ul style="list-style-type: none">leavesrootstalkfruitseedbudflower, etc.	
There are different ways to prepare food for cooking	Discussing the purpose of washing vegetables, as: <ul style="list-style-type: none">removing soilremoving chemicals from spraysremoving dirt which has accumulated from handling and from the air	
	Finding out why vegetables are sprayed with chemicals and why the spray should be washed away	
There are proper terms to be used in preparing foods	Discussing how to remove outer coverings and practicing using the proper terms, as: <ul style="list-style-type: none">peeling potatoesscrapping carrotsshelling peasscalding tomatoescutting cabbage leavesshucking cornstringing beanssnapping beansskinning onions	VIII

Major Problem: Food (Cont'd)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings

Experiences

Techniques

Planning foods to cook at school, as:

foods to cook on top of the stove

vegetable soup
cocoa
applesauce
creamed peas
candy

foods to cook in the oven

gingerbread
muffins
cookies
breads
cupcakes
baked apples
baked potatoes
rice pudding, etc.

There are certain
procedures to be
followed when
planning and cooking
a meal.

Discussing the reasons for stirring
foods while cooking as:

to prevent foods from sticking to
the bottom of the utensils

VIII

to keep parts mixed together

to keep food from boiling over, etc.

Making soup

Discussing the kinds of soup to be made

Listing soups which the children like

I

Planning to make vegetable soup

Reading different recipes for making
vegetable soup

Listing the things needed for making
the soup, as:

I

ingredients needed

utensils needed

Major Problem: Food (Cont'd.)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings

Experiences

Techniques

Storing the vegetables until ready to prepare them for cooking

Buying the meat

Covering the tables or desks with paper or oilcloth to protect them when preparing the vegetables

Dividing the class into small groups and assigning them tasks and places to work in preparing the soup

Cleanliness and order are necessary in preparing a meal as:

Getting ready to cook, as:

washing hands

care of hands

cleaning fingernails

care of hair

putting on aprons, caps, or nets

care of utensils

Keeping kitchen clean and orderly, etc.

care of clothing

Washing the meat and putting it on to boil

care of kitchen

Washing the vegetables

care of linens, etc.

Distributing the vegetables so that each group has experience in preparing several kinds

Removing the waste parts and disposing of the garbage

Cutting up the vegetable for the soup

Measuring the vegetables

Adding the vegetables to the soup

Measuring the seasoning

Seasoning the soup and tasting it for proper taste

Cleaning up the work area

Serving the soup

Major Problem: Food (Cont'd)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings	Experiences	Techniques
	Eating the soup	
	Discussing the effect of cooking upon vegetables and meats, as:	VIII
	softening the fibers	
	improving the taste	
	Writing an experience story on three levels of, "How We Made Soup"	IV
	Reading the story	
	Playing Twenty Questions to find out what we have learned about making soup	
	Making applesauce	
	Planning how to get the apples, sugar and utensils	
	Discussing the effect of stewing on apples	
	Preparing the fruit for cooking	
How to carry out the processes of cooking, as:	Cooking the fruit	
	Serving the applesauce	
the various steps in stewing apples	Discussing the differences between the following:	VIII
	Boiling and stewing	
baking ginger-bread	Preparing vegetables and apples	
	The taste of vegetables and fruits	
baking cookies, etc.	Making gingerbread or cake	
	Reading a recipe to discover what ingredients are needed	
	Discussing ways of getting ingredients and utensils and planning how to get them	
	Finding out how much of the gingerbread mixture is needed to serve the group and estimating the amount of materials needed	

Major Problem: Food (Cont'd.)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings

Experiences

Techniques

Obtaining the ingredients and the utensils

Finding out and charting the proper methods to be used in the following processes: I

Measuring the ingredients

Sifting the flour

Mixing the ingredients

Beating the eggs

Adding the ingredients

Preparing the cake pan

Regulating the temperature of the oven

Determining the time needed for baking

Testing to find out if the cake is done

Dividing the class into groups so that each will have certain responsibilities

Writing instructions for each group to follow IV

Studying the instructions so as to become familiar with them

Making the cake and baking it

Cleaning up the kitchen

Getting the cake out of the pan

Cutting the cake so that there will be the correct number of servings

Serving the cake

Evaluating the success of the cake, the procedure used, and the conduct of the group

Listing other foods made in a similar way I

Major Problem: Food (Cont'd.)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings

Experiences

Techniques

Using packaged cake mix to make a cake and making the cake to compare the processes needed

Discussing the purpose of:

VIII

beating the eggs

stirring the ingredients

greasing the pans

keeping the temperature even

watching the time, etc.

Finding out how to cook foods which will help mother in getting meals

Baking potatoes:

counting the number of pupils to be served

selecting the potatoes as to size and smoothness of skin

washing and drying the potatoes

regulating the oven

timing the baking

testing the potatoes

serving and eating them

Baking apples

Baking cookies

Making a molded fruit jello salad or desert

Making a green vegetable salad:

washing the vegetables

putting them in the refrigerator to chill for at least an hour

Major Problem: Food (Cont'd.)

Sub-Problem E. How can we plan and prepare a meal in our classroom to learn about healthful diets and good eating habits?

Understandings

Experiences

Techniques

taking the vegetables from the refrigerator

preparing the mixed vegetables by cutting into a bowl the following:

tomatoes into eighths

cucumbers sliced thin in discs

radishes sliced thin in discs

small amount of onion, chopped fine

celery cut in small pieces

carrots shaved or grated

mixing the vegetables with salad dressing

lining the bowl or plates with lettuce

placing the mixed vegetables in lettuce leaves

serving the salad

Seeing films and/or filmstrips on cooking and preparing foods (This may be done anytime during the unit that the teacher believes advisable) See Bibliography at the end of Food Unit. V

Evaluating what we have learned about preparing a meal by playing a Question game. (See Techniques section) VI

Major Problem: What do we need to know about food as a part of our program of living?

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings	Experiences	Techniques
A picnic can provide a nourishing meal and an enjoyable experience.	Reading and listening to stories about picnics	
	Telling experiences about picnics which members of the group have attended	
	Discussing types of picnics	VIII
	Discussing and listing what people usually do on picnics	
	Collecting pictures of picnics showing such things as:	
	putting up lunches	
	eating out of doors	
	serving lunch	
	Arranging pictures on bulletin board	I
	Singing songs about picnics	
We must have permission to leave school.	Discussing the fun and work attached to a picnic and listing them	VIII
	Discussing the advisability of having a picnic and deciding to have one	
	Writing a letter to the principal to ask permission to have a picnic	
A good picnic ground will be beautiful and shady, with places for eating, playing and privacy.	Deciding the time for the picnic and how long it is to last	
	Telling about good picnic grounds in the community not too far away	
	Suggesting points to take into consideration in selecting picnic grounds	

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings	Experiences	Techniques
	Listing the points suggested, as to:	I
	availability	
	freedom from poison ivy	
	ground cleared and with space to play and eat	
	privacy	
	dry and well drained space	
	shady and beautiful surroundings	
	Visiting some of the places suggested to see what each has to offer	
	Evaluating some of the places in terms of standards set up	
	Selecting a site	
Written permission for the use of picnic grounds assures us of available space.	Writing a letter asking permission to use the grounds	
	Planning how to get to the picnic grounds	
	Writing a letter to parents asking permission to go on a picnic	
	Planning how to get the lunch to the picnic grounds	
	Discussing what to do if it rains on a picnic	VIII
	Discussing kind of clothes suitable for a picnic	
	Making records of all decisions	I
Safety rules are necessary for a happy experience.	Setting up regulations to insure safety and a good time for everybody	

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings

Experiences

Techniques

Listing regulations set up, as:

staying together

not playing in the creek

remaining on the grounds

not destroying property

becoming aware of and respecting picnic
area regulations

Cleaning up after
a picnic is part
of being courteous
and will insure
permission to return.

Discussing how to clean up the grounds after
the picnic and selecting those whose
responsibility it will be to see that all help
until the cleaning up is satisfactorily completed

VIII

Discussing what to do on the picnic, as:

playing games

listening to a story

singing songs

collecting stones, leaves, flowers (if permitted)

exploring (if it can be done safely)

sitting still and enjoying the scenery

listing the things suggested

telling stories of good times on previous picnics

Discussing ways in which everyone would do some
of the things he wants to do

VIII

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings

Experiences

Techniques

Making plans for a picnic lunch:

discussing why a picnic lunch is different from other lunches

listing these differences to give the idea of comparison

listing the things appropriate for picnic lunches

A picnic lunch should be:

nutritious

attractive

clean

wholesome

easy to handle, etc.

determining and listing the qualities which are desirable in a menu for a picnic lunch, as: food value, attractiveness, cleanliness, ease of handling, wholesomeness, etc.

I

Finding an interesting way to chart these ideas by means of pictures to make them graphic

Some foods have more food value than others.

Discussing why some kinds of foods have greater food value than others, such as:

VIII

the relative value of whole wheat and white bread

the value of meat, peanut butter, and fish sandwich fillings

the value of cheese and egg fillings in sandwiches

the value of vegetables and fruits

the food value in ice cream and cake

the value of relishes, etc.

A variety of foods should be included to provide for individual differences in taste.

Discussing the need of providing more than one kind of sandwich, as: meat, cheese or egg sandwich, and vegetable or fruit sandwiches

VIII

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings	Experiences	Techniques
	Recording how to make the food for the picnic easy to handle, as: cutting the sandwiches in small sections avoiding juicy fillings in sandwiches using paper plates wrapping food in individual portions using paper cups with large bases	I
Food for the picnic should be cleaned beforehand and packed to keep it clean as well as protected while the picnic is going on.	Listing ways of preparing and serving food so that it will be clean, as: having clean hands and nails having clean containers and equipment washing vegetables and fruits before slicing them wrapping sandwiches as soon as they are made wrapping sandwiches in paper that is clean and large enough to protect the food furnishing the napkins arranging food so that the wind does not blow dust in it covering the food to protect it from insects	I
Foods should be chosen for their nutritive value rather than the taste alone.	Discussing the need for selecting foods that are wholesome, as: sandwich fillings that are not highly seasoned fresh materials - bread, fruit, vegetables foods with high food value rather than mere taste the use of butter or enriched butter substitute water which is taken along rather than using that available on the grounds	VIII

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings

Experiences

Techniques

avoiding hot dogs and hamburgers

avoiding uniced bottled drinks

Deciding on the kinds of food to take to the picnic, as:

two or three kinds of sandwiches

a drink, as lemonade

relishes or a salad

a simple dessert

Counting the number of people to eat

Determining the number of sandwiches for each person and the total number needed

Determining the number of sandwiches of each kind needed, the amount of bread needed, the amount of butter needed, the amount of filling of each kind needed

Keeping records of decisions made about the sandwiches

I

Discussing the kind of relishes or salad to be included

VIII

Listing the various suggestions

Evaluating the relishes in terms of the standards set up for food at a picnic

Estimating the amount of relishes needed and kinds to take with us

Finding out the cost of the relishes

Deciding how the relishes will be provided

Discussing the kinds of drinks children like on a picnic

Evaluating the various suggestions

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings

Experiences

Techniques

Selecting drinks to take

Estimating the amount of drink to be supplied

Getting a recipe and finding out how many it will provide for

Determining how many times each ingredient in the recipe must be multiplied

Listing the materials and amount needed

Estimating the cost of each

Getting the total cost of the drinks

Suggesting the kinds of desserts good for picnics

Evaluating the suggestions

Planning which dessert to include in the menu for the picnic

Finding out the amount needed and the cost

Recording the menu on a chart or in notebooks

I

Finding out:

the amount of waxed paper needed for wrapping sandwiches

how the sandwiches should be packaged for carrying

number of paper dishes, cups, napkins needed

number of thermos jugs needed for taking the drink

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings	Experiences	Techniques
Some materials for the picnic will be donated and others must be purchased.	Determining what materials will be donated for the picnic and by whom	
	Determining what materials will be purchased	
	Getting the cost of each kind of material	
	Getting the total cost	
	Determining the method of getting the money	
	Appointing committees for the following purposes and helping them carry out their assignments:	
	to take charge of the money and to purchase the material	
	to receive materials that are donated	
	to plan some games	
	to plan some method of entertainment other than games (if this is desired)	
	Writing a memorandum to remind each one of what his share is in providing materials for the picnic	
	Bringing in food and money	
	Making the needed purchases	
	Making the sandwiches	
	Preparing the drink	
	Packing the lunch	
	Going on the picnic	

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings	Experiences	Techniques
A successful picnic is one in which everyone performs his appointed tasks and observes the rules set up by the group.	Evaluating the picnic upon the return in terms of: preparation of the lunch enjoyment cleaning up the grounds cooperation shown by different persons in preparing and serving the lunch, in carrying out the entertainments choice of picnic area	
An expression of appreciation will show the proper people that their cooperation really helped to make a fine picnic.	expressing appreciation to the various committees or individuals for helping with the picnic in any way writing a note of thanks and appreciation to the proper person for the use of the picnic area writing a note of appreciation to the principal for giving permission for the picnic	
Other studies of food can help us to plan well-balanced meals for any occasion.	Choosing other topics to study as: how leafy vegetables are grown vegetables which are seeds roots we eat poultry and poultry raising how pork is produced raising sheep for food cattle for food how sea foods are obtained the sugar cane plantation making sugar from maple sap	

Major Problem: Food (Cont'd.)

Sub-Problem F. How can planning and having a picnic help us to learn more about foods and diets?

Understandings

Experiences

Techniques

how bees make honey

nuts for the nut bowl

where chocolate comes from

where we get salt

where we get spices

refreshing fruit beverages

Major Problem I: What do we need to know about food as part of our program of living?

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come?

Understandings	Experiences	Techniques
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Foods may be classified.	Planning to make a booklet as a means of organizing work on foods	I
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Planning chapters of the book to include:

dairy products
fruits
cereals
vegetables
meats
sugars
nuts
beverages
condiments

Dairy products are an important part of our diet.	Reading stories which tell how we get milk	
	Planning and visiting a dairy farm	III

	Writing developmental experience stories to tell what happens to milk in a dairy	IV
--	--	----

There are many processes involved in the production of dairy products.	Looking at movies and film strips on dairy farming and the dairy	VII
	Reading health books to find out why we drink milk	

Listing such points as:

milk tastes good
milk is a good food
milk makes us grow
milk builds strong teeth
milk builds strong bones
milk helps protect us against diseases
milk helps keep us well
milk contains valuable minerals

Major Problem I: What do we need to know about food as part of our program of living?

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come? (cont'd.)

Understandings

Experiences

Techniques

milk ~~contains~~ valuable vitamins

milk is our best source of calcium

Writing a story on "Milk as a Food"

Discussing the meaning of:

pasteurized milk

evaporated milk

condensed milk

powdered milk

Collecting recipes for dishes using milk

Discussing ways of getting milk into the diet VIII

Comparing measures used in measuring milk, as:

cup

glass

pint

quart

gallon

etc.

Finding problems using liquid measures

Making original problems using measures and cost in relation to milk sales

Reading about cheese making

Looking at pictures to get data

Writing to cheese companies to get information

Having a "cheese party" to taste different kinds of cheeses

Major Problem I: What do we need to know about food as part of our program of living?

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come? (cont'd.)

Understandings	Experiences	Techniques
	Collecting labels of different kinds of cheese to use in booklet	
Other sections of our country as well as Montgomery County are important for their dairy products.	Making a map to show the leading dairying states of our country	I
	Finding out how Maryland and Montgomery County rank in the dairy industry	
	Collecting pictures of dairy cows	
	Reading about how butter is made	
	Making butter to eat on hot muffins at lunch	
	Discussing the value of butter in the diet	VIII
	Discussing the differences between butter and butter substitutes	
Eggs are an important part of our diet.	Reading about the production of eggs	
	Visiting a large poultry farm	III
	Reading to find the value of eggs in the diet	
Eggs are produced in many parts of our country.	Adding the egg producing areas to the map	
	Collecting pictures of breeds of chickens	
Many breeds of poultry produce eggs.	Discussing causes for differences in egg prices	VIII
	Discussing the need for egg refrigeration	
Many fruits are grown in Maryland.	Listing the kinds of fruits	
	Listing favorite fruits	
Citrus fruits are important in our diet.	Collecting labels from canned fruits for book	
	Listing kinds of fruit grown in your neighborhood	

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come? (cont'd.)

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Major Problem I: What do we need to know about food as part of our program of living?

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come? (cont'd.)

Understandings

Experiences

Techniques

There are many kinds of fruits.

Reading about other interesting fruits, as:

bananas
pineapples
dates
cocoanuts
cranberries

The stories of how and where they are grown teach us important things about the lives and work of people in many areas.

Looking at pictures

Writing to fruit companies for illustrative materials

Making pictures showing workers at work

Looking at slides, movies, or parts of filmstrips to clarify ideas

VII

Fruits can be used in many ways.

Adding stories about these fruits to the fruit booklet

Having a "fruit party" to become familiar with the taste of unfamiliar fruits

Visiting a fruit stand to select fruits to send to a sick classmate

Arranging an attractive fruit basket

Arranging an attractive center piece for the lunch table using fruit

Discussing personal experiences relating to the growing or harvesting of small fruits, as: VIII

strawberries
blackberries
cherries
raspberries
grapes

Collecting pictures and labels

Major Problem I: What do we need to know about food as part of our program of living?

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come? (cont'd.)

Understandings

Experiences

Techniques

Reading about the work and workers involved in growing and harvesting these fruits

Decorating place mats, napkins, etc., with fruits as motifs for sale in the store

Some fruits are dried for use.

Planning a story about dried fruits for the book.

Dried fruits are important in our diet.

Listing dried fruits, as:

raisins
prunes
currants
dates
figs

Reading to learn how these fruits are grown; what fruits are dried to make them; how they are dried

Listing other foods which are sometimes dried

Reading to find the value of dried fruits in the diet

Discussing the place of dried fruits in a menu VIII

Many of our foods come from different kinds of grains.

Preparing a section on cereals for the book.

Discussing the meaning of the word cereals

Listing cereal grains

Talking about the experiences related to the growing or harvesting of any of these grains

Growing grain is important work in many areas of our country.

Reading to find out the soil and climate requirements of each grain, as:

wheat
corn
oats
barley
rye
rice

Major Problem I: What do we need to know about food as part of our program of living?

Sub-Problem G: How can we learn more about how foods are produced and the areas from which they come? (cont'd.)

Understandings	Experiences	Techniques
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Listing the grains most commonly used by people in our country for food and those more commonly used as food for animals

Reading about the work involved in the growing of these crops

Collecting and studying pictures to get data

Looking at audio visual materials to get data VII

Discussing the information gained by reading and viewing

Some grains are made into flour to be used for bread and other bakery products.

Planning a visit to the bakery

III

Visiting the bakery

Discussing information learned at the bakery

VIII

There are many processes involved in the production of bakery products.

Writing the story of a Loaf of Bread

Listing other bakery products

Talking about bread making in the home

Having a "bread party" to become familiar with the less familiar types of bread

Discussing the food value of dark breads as compared with white breads

VIII

Discussing the terms:

"enriched flour"

"enriched bread"

"enriched cereal"

Discussing ways of getting children to eat more dark bread

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"Lunch Time"	50
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Major Problem II. What do we need to know about clothing as a part of our program of living?

Sub-Problem A. How can a visit to clothing stores in our area help us to learn where to buy clothes?

Understandings	Experiences	Techniques
We may get clothing at many places	Making a collection showing clothing stores	I
shoe stores	Talking about shopping experiences	
hat stores	Making plans and taking a tour in the area in which we shop to see how many different kinds of stores sell clothing	III
mens' furnishing stores		
ladies apparel shops	Making a list of the kinds of clothes sold in the stores visited	
childrens' shops		
department stores	Making a map to show the location of each clothing store	I
Goodwill Retail stores		
mail order houses	Collecting catalogues of mail order houses that sell clothing	
wholesale houses		

Sub-Problem B. How can chart displays and booklets help us to choose our wardrobe wisely?

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Major Problem II. Clothing (cont'd.)

Sub-Problem B. How can chart displays and booklets help us to choose our wardrobe wisely?

Understandings

Experiences

Techniques

Discussing and listing characteristics of practical garments:

IV

being washable

having generous seams and deep hems

fitting well

feeling comfortable

Experimenting with samples of materials to see:

which will fade

which will shrink

which will need starch

which will not launder

which contain weak warp or woof threads

which contain sizing

which are color fast to the sun

Learning the names of color, tints and shades

Mixing colors to see how dark and light colors are formed

I

Discussing color combinations:

those which are most becoming

those one likes best

those for different kinds of garments

those suitable for shoes and hats

Major Problem II. Clothing (cont'd.)

Sub-Problem B. How can chart displays and booklets help us to choose our wardrobe wisely?

Understandings

Experiences

Techniques

Listing colors which are becoming to:

one with blue eyes and light hair

one having dark eyes and dark hair

one having red hair and florid complexion

Selecting a picture of a becoming dress or suit

Making individual scrapbooks using pictures to show wise selections of clothing for a complete wardrobe

I

Grouping pictures according to:

II

the season when the garment would be worn

the occasion when the garment would be worn

Evaluating the scrapbook on the choices of clothing

Major Problem II. Clothing (cont'd.)

Sub-Problem C. How can setting up aids for good grooming in the classroom help us to take better care of our clothing?

Understandings	Experiences	Techniques
A well groomed person must be clean, neat, and appropriately dressed.	Making pictorial charts showing that a well groomed person is clean, neat, and appropriately dressed.	I
In the classroom we can improve our grooming by taking care of our clothing	Bringing in hangers and wrapping them attractively with colored gimp to be used in school and at home	
	Making shoe shine boxes and equipping them	I
	Practicing shoe shining	
	Putting up a mirror for checking appearance and combing hair	
We can keep our clothing in repair	Demonstrating the use of cleaning fluid	II
	Making and equipping a sewing kit for sewing on buttons, repairing hems and rips	
	Practicing sewing on buttons	
	Practicing sewing up rips	

Major Problem II. Clothing (cont'd.)

Sub-Problem D. How can a contest in good grooming help us develop habits of caring for clothing?

Understandings	Experiences	Techniques
Records help us to evaluate progress	Making a class chart of individual charts to record activities we do each day to improve grooming	I
Contests are set up on a fair competitive basis, have clearly defined rules, and must be supervised and judged	Planning and having a contest using two teams to compare records of activities	VI

Major Problem II. Clothing (cont'd.)

Sub-Problem E. How can we set up a clothing store in our classroom to find out how to buy and sell clothes?

Understandings	Experiences	Techniques
We need to know many things about a clothing store in order that we may buy wisely	Making plans to visit a clothing store to observe the arrangement, equipment, and types of activities carried on	
Department stores group the clothing for sale according to the persons, who buy: men, women, children, and young adults.	Discussing the visit upon returning	VIII
Clothing may be bought for cash, by check, or charge accounts and on time payments	Evaluating the visit according to standards and purposes established during the planning	
	Developing an experience story on the visit	
	Discussing and deciding to set up a play clothing store in the classroom.	
	Reading about and discussing stock carried in a store	
	Deciding on style, location, and size of our store	
	Measuring floor space	
	Making plans for building our store	
	Deciding how the work of establishing our store will be done - e.g. whether committees will be chosen, elected, or volunteer	IV
Equipment is needed for a classroom store	Making a list of things needed by committees:	
	counters	safe
	cash register	storage space
	glass cases	clock
	signs	shelves
	labels	tape measure
	money	yardstick
	decorations	wrapping paper
	racks	bags
	hangers	boxes
	windows	desks

Major Problem II. Clothing (cont'd.)

Sub-Problem E. How can we set up a clothing store in our classroom to find out how to buy and sell clothes?

Understandings	Experiences	Techniques
	Discussing ways of making the parts of our store	VIII
	Getting the necessary materials and constructing the equipment	
	Appraising the work and evaluating the progress	
	Cleaning up the room after the work experience	
	Evaluating the clean-up period	
We can get some of the stock by making it	Listing materials needed for stocking our store	
We need much equipment to make stock for our store	Bringing in materials needed for our store	
We follow patterns when making clothing for our store	Keeping records of group work by experience stories, copied lists and individual notebooks	IV
	Keeping reading records	
	Planning and making stock for our stores:	IV
	aprons	belts
	gathered skirts	mittens
	caps	pocketbooks
	costumes	scarves
	handkerchiefs	clothing accessories
	suspenders	
	Writing experience stories to explain the work steps carried out	
Prices and sizes of clothing are shown on signs, labels, and tags	Finding out the actual cost of materials bought or contributed to get a basis for a price for each article	
	Making prices for the various articles using the above findings as a basis or by suiting the price markings to the number level of the children	

Major Problem II. Clothing (cont'd.)

Sub-Problem E. How can we set up a clothing store in our classroom to find out how to buy and sell clothes?

Understandings	Experiences	Techniques
Many department stores group clothing according to price:	Making signs and labels	I
1. special sale items	Collecting, reading and discussing store advertisements	
2. budget departments	Writing and illustrating advertisements and notices	I
3. exclusive wear	Discussing the kinds of work that needs to be done in our store	VIII
Salespeople help us in finding, selecting, trying on and buying clothing and by wrapping the clothing	Deciding on the kinds of workers and the duties of each	
In order to operate a store in our classroom we must:	Discussing and discovering the fitness of the candidates for the various jobs:	
learn what jobs are to be done	quality of writing for the sales slips	
assign people to do the jobs	ability to make change	
set up standards for the workers to meet	Selecting staffs of workers and organizing each for work	
	Making work list of staffs to post in our store and assigning hours of work for each	I
Courtesy should be practiced by workers and customers alike	Studying pictures which show buying and selling of garments in stores	
	Discussing and practicing how to be courteous customers by:	VIII
	knowing what one wants without wasting the clerks time	
	selecting merchandise with care, thus avoiding the return of a purchase	
	Knowing the quality of merchandise and current prices, thus knowing the value received	

Major Problem II. Clothing (cont'd.)

Sub-Problem E. How can we set up a clothing store in our classroom to find out how to buy and sell clothes?

Understandings

Experiences

Techniques

Discussing and practicing how to be courteous customer by: (cont'd.)

VIII

understanding and appreciating the services rendered by the merchants by showing courtesy and consideration to salespeople

Discussing and practicing rules regulating the return of merchandise

Evaluating the students who are customers and workers

IV

Writing and presenting a short play showing courtesy between clerk and customer

V

Major Problem II. Clothing (cont'd.)

Sub-Problem F. How can we learn where our clothing comes from and plan an exhibit to show our parents what we have learned?

Understandings	Experiences	Techniques
Our garments are made of many different materials:	Making a list of all the garments that we are wearing	
wool	Looking at and touching our garments to see if they are made from different materials	
linen		
rayon		
cotton		
silk	Listing the characteristics of the different types of materials in our garments:	IV
nylon		
leather		
rubber		
fur	coat - thick, rough, and fuzzy	
	skirt - smooth, thin, and soft	
	Making lists of the garments which are made from the same materials	
	Collecting pieces of material which are different	I
	Grouping materials according to what we use them for	
	Setting up bulletin board displays using the collection	I
The materials of our garments are made from many raw materials:	Making charts of posters to show garments made from animal fibers, garments made from plant fibers, and garments made from synthetics	I
plant fibers		
animal fibers	Filling in a large picture map of the United States showing the location of areas where clothing materials are produced	I
synthetically constructed fibers		
The process of supplying raw materials for fabrics have brought about different ways of life and different jobs	Reading stories about the production of cotton, wool, silk, rayon, nylon, rubber, leather, and fur	
	Listening to stories which help visualize the farm life where cotton is grown	

Major Problem II. Clothing (cont'd.)

Sub-Problem F. How can we learn where our clothing comes from and plan an exhibit to show our parents what we have learned?

Understandings	Experiences	Techniques
Clothing materials are produced in:	Discussing how the plant is raised and harvested; how the seed is removed; how cotton is shipped to the factories	VIII
The South, where cotton is raised	Studying visual materials about cotton growing	VII
The plains and mountains in the western states where large herds of sheep are raised	Summarizing the information in developmental chart for reading	IV
The eastern and northern cities where much cotton is manufactured	Planning and making a mural to show a scene on a cotton farm	I
The far north where fur bearing animals are trapped	Planting seeds to try to grow a cotton plant	
	Reading some plantation songs to find out how people lived on cotton farms years ago	
	Singing these plantation songs	
	Discussing the different jobs to be done on a cotton plantation	
	Reading stories telling how the silkworm is raised	
	Studying the film "From Cocoon to Kimono"	VII
	Collecting pictures of sheep	
	Studying the films:	VII
	"Range Sheep"	
	"Navajo Children"	
	"Navajo People"	
	Reading stories about life on a sheep ranch, feeding and care of the sheep and shearing of the sheep	
	Reading about shepherd life in the Bible as "The Twenty-Third Psalm" and "The Story of Daniel"	

Major Problem II. Clothing (cont'd.)

Sub-Problem F. How can we learn where our clothing comes from and plan an exhibit to show our parents what we have learned?

Understandings	Experiences	Techniques
	Discussing the different kinds of jobs on a sheep ranch	VIII
Raw materials are put together in different ways to get different fabrics:	Raveling threads from cloth	
weaving	Studying samples of thread to see how they are made	
knitting	Making threads from wool, cotton, and flax	
spinning	Planning a trip to the museum to see exhibits, to get information about spinning, weaving, dyeing, and other processes used in the manufacture of fabrics	III
pressing		
heating		
Long ago people in this country made their own thread and wove cloth by hand	Making the trip	
	Evaluating the trip in relation to the plans and standards set up	
	Reporting and discussing the information received on the trip	
	Recording the information	
	Using the information to make developmental charts for reading	I, IV
	Making pictures to illustrate the ideas and impressions gained on the trip	I
	Reading and listening to stories about weaving and how thread is made	
	Using simple hand looms (Nellie Bee and cotton loops) to weave rugs, mats, and purses	
	Doing spool knitting	
	Singing songs about weaving and spinning	
	Listening to phonograph records related to weaving and spinning	

Major Problem II. Clothing (cont'd.)

Sub-Problem F. How can we learn where our clothing comes from and plan an exhibit to show our parents what we have learned?

Understandings	Experiences	Techniques
	Reading and speaking together poems about weaving and spinning	
	Collecting pictures of weaving by hand in other times and in other lands	
	Collecting pictures of weaving by machinery	I
	Discovering what happens to the material after it is woven	
We use dyes to make the fabrics different colors	Finding and using materials which can be made into dyes such as: clay bark berries flowers roots	
We get dyes from many things around us flowers berries roots clay bark	Experimenting with homemade dyes to discover their colors and the materials that they will color	
	Writing developmental stories about dyeing experiments	IV
	Reading stories to find out about commercial dyes	
	Buying and using different commercial dyes to color yarn and different kinds of cloth	
An exhibit is a way in which to organize, review, and share things learned, collected, and made	Discussing how to have an exhibit to show what we have learned about clothing	VIII
	Playing "Twenty Questions" on facts we have learned about clothing	VI
	Establishing standards for choosing our work that we can put in the exhibit	
	Judging the work	
	Deciding on the equipment needed for the display	

Major Problem II. Clothing (cont'd.)

Sub-Problem F. How can we learn where our clothing comes from and plan an exhibit to show our parents what we have learned?

Understandings	Experiences	Techniques
	Collecting or constructing the equipment	
	Setting up the equipment	
	Assigning the jobs for setting up the exhibit	
	Setting up the exhibit	
	Explaining what we have done	
Evaluations help us to find out how well we achieved our purposes	Evaluating the exhibit	

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"A Tie for Terry"	p. 121
"Silk from Silkworms"	p. 124
"Silk from Coal, Water, and Air"	p. 129
"A Coat for Joe"	p. 132
"Homemade Clothes"	p. 137
"On Your Head"	p. 140
"On Your Feet"	p. 142
"The Bragging Boots"	p. 146
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"How Rayon Is Made"	p. 132
"Another Man-Made Material"	p. 133
"Leather"	p. 135
"Rubber & Synthetic Rubber"	p. 136
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"Rusty Blake's Father Runs A Clothing Store" p. 8

"Wool for Our Clothes" p. 72

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Color and You.....	FS 1361
Cotton Textile Industry.....	FS 1529
How We Are Clothed.....	FS 636
How We Get Our Cotton.....	FS 1604
Right Clothes for You (Girls).....	FS 1363
Selecting Children's Clothing.....	FS 1439

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Cotton Growing.....	F 49
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Making Shoes.....	F 293
Range Sheep.....	F 48
Your Clothing.....	F 472S

LANTERN SLIDES

Cotton.....	LS 2090
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OTHER RESOURCES

Places from which Information on Clothing may be Obtained

Cotton

1. The Aurora Cotton Mills, Aurora, Illinois
2. Johnson & Johnson, New Brunswick, New Jersey (Cotton Exhibit)

Dyes

1. National Aniline and Chemical Co., Inc., 40 Rector St., New York (Dyestuffs)

Flax

1. Stevens Linen Works, Webster, Mass.

Rubber

1. Goodrich Rubber Tire Co., Akron, Ohio
2. Hood Rubber Co., Watertown, Mass.
3. United States Rubber Co., 1790 Broadway, New York City

Silk

1. Belding Bros. Co., 201 W. Monroe St., Chicago, Ill.
2. Cheney Bros. Silk Mills, New Manchester, Conn.
3. Silk Association of America, 468 Fourth Ave., New York City

Wool

1. The American Woolen Co., 225 Fourth Ave. at 18th St., New York Station D., P. O. Box 100
2. Botany Worsted Mills, 200 Fifth Ave., New York City

Problem III: What do we need to know about houses as a part of our program of living?

Sub-Problem A. How do houses help in carrying on a program of living?

Understandings	Experiences	Techniques
The home is a place in which each member of the family carries on <u>six</u> programs of living:	Discussing the type of activities carried on in the home	VII
1 eating	Listing these activities under the six programs of living	
2 resting	Beginning a scrapbook table of contents listing the six programs of living to be developed as the unit progresses	I
3 working		
4 playing	Forming committees to work on different phases of the programs of living in housing	
5 caring for cleanliness	Collecting pictures on the programs of living for the scrapbook	I
6 dressing	Writing to the American Institute of Architects Ins. Trust, 1631 K St., N. W., Washington, D. C. to get the criteria they use to judge the floor plan of a house on the basis of the six programs of living	
There are reasons for dividing a house into rooms, each of which is designed for a specific purpose.	Planning a trip to visit a model house in a development to study the division of space appropriate to the six programs of living. (Get permission from builder.)	III
	Making the trip (Ask for floor plan of the house visited. All builders give them as a part of advertising program)	
	Using the floor plan as a basis for evaluating the space allotted for the different programs of living.	
	Finding floor plans in newspapers and magazines for study and for scrapbook	
	Making floor plans of an imaginary house. Evaluate to see if it meets the six programs of living	

Problem: Houses (cont'd.)

Sub-Problem A. How do houses help in carrying on a program of living?

Understandings	Experiences	Technique
Rooms of a house have different locations and sizes according to the purpose for which each is used.	Making a chart naming the different rooms in the floor plan; listing the activities which go on in each room; listing the equipment needed for carrying them on	I
	Looking at pictures of living rooms, kitchens, bedrooms, bathrooms, etc. and comparing them as to their adequacy (size and location) carrying on the type of activity for which they have been planned.	
	Mounting some of these pictures for scrapbook. In the margins list the activities for which each is planned	I
	Making a diagram showing the public and private parts of a house.	I

Problem: Houses (cont'd.)

Sub-Problem B. How do houses protect us against the weather?

Understandings	Experiences	Techniques
Our modern homes provide protection against the weather, such as:	Discussing the parts of the house that protect us against the weather; foundation, walls, roof, floors, partitions, openings, etc.	VIII
temperature		
wind	Making a glossary or picture dictionary of terms to be used with pictures to illustrate them	
humidity		
rain	Reading and discussing the difference between climate and weather	
sleet	Listing the factors that go to make up climate and seasons	
snow		
dew	Using the globe and maps to locate the areas with characteristic differences in climate	VIII
the climate of a country	Making a map of the climate zones showing the types of houses characteristic of each	
	Finding out the kinds of houses used by people of very cold regions, very hot regions, mild regions	
	Examining our own homes to find parts of the house which were constructed to help control each of the following:	
	Keeping out mid-summer heat	
	Letting in sunshine	
	Carrying off surplus water	
	Bringing up the temperature of the house	
	Keeping out moisture	
There are instruments which tell us the weather and the temperature.	Examining instruments for recording changes in weather (thermometers, barometers) and temperature (thermometer)	
	Finding the room temperature which is considered best for health. Learning why this temperature is best.	

Problem: Houses (cont'd.)

Sub-Problem B. How do houses protect us against the weather?

Understandings

Experiences

Techniques

Recording the classroom temperature
at various times during the day

Reading to find out how to make
instruments for recording weather
as: rain gauge, wind sock, barometer

Writing a paragraph to tell how
weather instruments are made

Keeping a weather record as a
diary or a chart

Seeing films or filmstrips about
weather. (This can be done when-
ever the teacher believes advisable
anywhere during problem. See
bibliography at end of problem.)

Playing "Question" games to find
out what we have learned about
housing.

VI

Problem: Houses (cont'd.)

Sub-Problem C. How does the modern house provide privacy?

Understandings	Experiences	Techniques
The modern house protects privacy	Discussing the parts of the house used for guests in the home and courtesies which should be shown guests Discussing the parts of the house used to protect family and individual privacy.	
Privacy for individual members of the family demands courtesy and cooperation.	Making a list of things sometimes done which violate the privacy of others such as: reading others' mail eavesdropping listening to telephone conversations on party lines, etc. Listing the items in house construction which keep people from intruding on our privacy Discussing the need for a part of a house where we can be alone at such times as: reading stories writing letters discussing personal problems getting dressed being punished Discussing reasons why it is difficult to have privacy in school Dramatize a family situation in which each member of the family shows consideration of other members in maintaining privacy Collecting pictures for the scrapbook which illustrate pleasures which the family group enjoys by itself. Making a bulletin board display or mural of sequential activities of recreation which the family enjoys during different seasons of the year	VII

Problem: Houses (cont'd.)

Sub-Problem C. How does the modern house provide privacy?

Understandings

Experiences

Techniques

Reading stories about family groups
enjoying home activities together

Writing an experience chart on
activities which may be enjoyed by
all members of the family.

Problem: Houses (cont'd.)

Sub-Problem D. How can the modern house provide safety for its members?

Understandings

Modern houses are built to minimize accidents in the home.

Experiences

Discussing the features of the modern home which help to eliminate accidents such as:

electric and gas appliances

electrical insulation

placement of appliances and furniture

government regulations, etc.

Listing the kinds of accidents which often happen to people in their own homes and discussing how to prevent them

Making a display of articles dealing with home accidents

I

Finding descriptions of injuries received in a house and reading them to the group

Reading stories which give instances of injury from falling:

from windows

on stairways

on furniture

on rugs

from stepladders

in bathtubs

from porches

Finding out what to do in case of injury from falling:

reporting accident to members of family or someone in charge

calling doctor

finding out what to do for patient until doctor comes

PROBLEM. Houses (cont'd.)

Sub-Problem D. How can the modern house provide safety for its members?

Understandings

Experiences

Techniques

Discussing hazards in our own homes

Examining our homes and removing hazards from:

stairways

halls

passageways

closets

cupboards

porches

basements

Reading and discussing how to find:

ways in which the government attempts to
prevent accidents in the home

gas leakage from pipes and sewer openings

faulty electrical wiring and appliances

Reading and discussing how to prevent and report
the above findings

Discussing the causes of fires in the home

Inspecting our own homes to see that they are
free from such hazards

Carelessness in
the home causes
most fires.

Inviting a member of the fire department to talk
to the class about prevention of fires in the
home. Making a record chart of the talk

OR

Visiting a fire department to see the equipment
used and asking questions concerning prevention
of fires in the home. Making an experience chart
of what was learned on visit

Collecting pictures showing the causes of fires
in the home

Problem: Houses

Sub-Problem D. How can the modern house provide safety for its members?

Understandings

Experiences

Techniques

Collecting pictures showing the causes of fires in the home

Planning and giving a dramatization on:

carelessness

main causes of fires

other causes

Making a booklet on the causes of fires in the home

Writing paragraphs - each explaining one cause of fire in the home

Using pictures collected for a booklet on causes and prevention of fires

Mounting items from newspapers giving accounts of fires in Washington vicinity. (Use later in fire booklet.)

Making posters of pictures to show ways of fighting fires

Making a fire picture describing a fire you have seen. (For booklet)

Designing an appropriate cover for the fire booklet

Telling stories about transportation accidents on the premises (cars, bicycles, sleds, etc.)

Collecting news items telling of transportation accidents

Collecting pictures which point out transportation accidents around the premises

Problem: Houses (cont'd.)

Sub-Problem E. How does the modern home provide protection of property?

Understandings	Experiences	Techniques
Modern homes provide protection of private property	Finding out how the construction of the home protects our personal property Discussing ways in which we care for our possessions in our home Listing the parts of the house most suitable for protecting valuables Discussing reasons why valuables must be protected	

Problem: Houses (cont'd.)

Sub-Problem F. How does the modern home protect our health?

Understandings	Experiences	Techniques
Modern homes can protect the health of its members	Discussing the ways modern homes provide for the health of a family. Comparing modern methods of sanitation in homes with those homes that do not provide these methods.	
	Reading about the disposal of waste in the house	
Disposal of waste materials protects the health of the household	Discussing the relationship between sewage disposal and the health of the household	
	Discussing the dangers of defective methods of sewage and garbage disposal	
	Writing out specific directions for caring for garbage in the home	
	Finding out how the garbage and sewage were disposed of long ago	
	Finding out the history of bathrooms	
	Making a record chart of correct ways to dispose of waste materials	
	Writing the Gulf Oil Co. for enlarged picture of household pests to be used in a bulletin board display	I
	Listing the chief household pests	
	Drawing pictures of household pests	
Insects and animal pests cause unhealthy conditions in the home	Reading how insects and animal household pests cause illness	
	Finding out ways of fighting household pests	
	Selecting one household pest for special study in relation to:	
	where it is found in the house	
	what damage it does	
	how it can be exterminated	
	its life history	
	how it affects health, etc.	

Problem: ~~House~~ (cont'd.)

Sub-Problem F. How does the modern home protect our health?

Understandings

Experiences

Techniques

Collecting recipes for exterminating such pests
as:

mice

rats

cockroaches

moths

fleas and ticks

termites

bedbugs

flies

mosquitoes

ants

Copying these recipes into the booklet

Making a record chart listing the things we
have learned about insects

Major Problem III. What do I need to know about houses as a part of my program of living?

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
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The structural composition and the function of each part of a house is as follows:	Discussing the parts of a house Listing the parts of a house to use as key words in finding reading materials about house construction	VIII
--	---	------

foundation

framework

roof

doors

ceilings

walls

service features

Making a bibliography on house construction

Collecting pictures which give information about the various kinds of work involved in construction of a (brick) house as:

excavating foundation

laying the foundation

building the framework

installing windows and outer doors

Sheathing a house

Laying brick - building chimney and/or fireplace

roofing a house

rough wiring

plumbing installation

installing heating system, gas

insulating a house

plastering

finishing the interior

floors

doors

outlet plates

painting

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
Many kinds of workers work to build a house	<p>Listing the kinds of workers who help in building a house</p> <p>Reading to find out about such things as:</p> <ul style="list-style-type: none">the work of the carpenterthe work of a brick masonthe way painters make their colorsthe way wallpaper is hung <p>Discussing the differences between skilled and unskilled workers</p>	<p>I</p> <p>VIII</p>
Each worker has specific work to do and specific tools to use.	<p>Making chart(s) to show:</p> <ul style="list-style-type: none">the kinds of workers in house constructionthe work each doesthe tools used by eachthe materials with which each works <p>Visiting a house under construction to observe:</p> <ul style="list-style-type: none">the workers at workthe ways in which they use their toolsthe care of toolsthe ways in which they store their materials <p>Finding out the order in which workmen construct a house (according to the type of construction, i.e., frame, solid masonry, brick veneer, etc.)</p>	<p>I</p> <p>III</p>
A house is made of many kinds of materials.	<p>Discussing the various kinds of materials used in building the house visited and listing them</p>	

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences

Techniques

There are many new words to learn about in the construction business.

Making a Builder's Dictionary for words used in the construction business

A foundation is necessary in constructing a house, serving many purposes and being made of various types of materials.

Discussing reasons for building foundations under houses as:

VIII

Protecting the floor of the house from moisture

Providing space under the house for storage, for added living space, for Civil Defense shelter, for installing heating plant, for laundry space, etc.

What is the meaning of the word foundation?

Why is a part of a house called a foundation?

Looking at foundations of houses and pictures of foundations to see what materials are used in constructing them as:

tiles
stone
wood posts
bricks, etc.

Building materials come from many places, near and far.

Reading to get information on the following topics:

Where do we get building materials?

How are bricks made?

How are sand and gravel processed for building?

How are cement blocks made?

How is cement made?

Visit such places as the following when possible: III

brickyard

Major Problem: Houses (Cont'd.)

Sub-Problem 3. What should I know about the construction of a house?

Understandings	Experiences	Techniques
An excavation must be carefully made before a foundation can be constructed.	sand and gravel pit	
	cement mixer at work	
	Visting a building site where excavation is going on for:	III
	taking pictures of men at work	
	observing the kinds of tools used in excavating	
	observing the method and tools used in removing and disposing of the soil	
	asking the man in charge how long it will take to complete the work of excavating	
	finding out how much the men are paid for their work and for the use of the machines	
	asking the man in charge how deep the hole is to be	
	observing how the space to be excavated is marked	
An exhibit of materials helps us to learn to know what is used in making foundations.	Discussing the information gained on the trip and writing developmental experience stories to be used as reading materials	VIII & IV
	Collecting samples of materials used in building foundation walls and organizing them for display	
	Collecting pictures of tools used in:	
	excavating	
	pouring concrete	
	measuring sand, gravel, cement	
	laying bricks	
	laying stone	

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences

Techniques

driving piles

checking to see that parts of the
foundation are even and level

Mounting and labeling the pictures

I

Arranging them for display

I

Putting into our dictionary such words as:

foundation
excavation
level

Explaining in our dictionary such terms as:

laying stone

driving piles, etc.

A framework is
constructed upon
the foundation.

Finding out how carpenters construct the frame
work of houses by discussing the function of the
framework of a house as:

a support for the roof

a basis upon which floors may be laid

a basis upon which walls may be built

a means of outlining the space to be
enclosed

Visiting houses under construction to see:

IV

the various parts of the framework used

how each part is constructed

how each part is used

the purpose of each part

Looking at pictures of framework of buildings
to see:

the kinds of materials used

the methods of putting together various parts

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
	the method of fastening together the framework and the foundation	
	Making a list of words used by builders when talking about framework to place in the Builder's Dictionary	I
	Using the above list for marking a diagram of a framework of a house	
	Reading information about the materials used in making framework, as: <ul style="list-style-type: none">the kinds of wood used in making frameworkhow to treat the timbers of a frame to prevent decayhow steel is used in the construction of frameworks, etc.	
It is important to have a good quality of material in a framework.	Discussing the reasons why it is necessary to select a good quality of materials for the framework of houses and for foundations to have good workmanship	VIII
	Making a chart listing the causes of injury to the framework of a building, such as: <ul style="list-style-type: none">firewindfloodearthquakestermites	
	Making an exhibit of ways in which parts of buildings are fastened together as: <ul style="list-style-type: none">nailsscrewsrivetsmortarglueweldings	

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
Floor joists are a necessity in home construction, and must meet certain regulations.	Getting information about: the purpose of floor joists the method of laying floor joists the reasons why they are placed with the narrow side up Asking the man in charge of building the framework about the approved distance between floor joists and why this is regulated by contract Finding out the kinds of timber used for joists and why these kinds are used Looking at the ceiling of basements to see how joists are braced Looking in attics which have not been finished to see: how the floor joists have been fastened to the girder how the rafters are fastened to the ridge pole what holds the ridge pole in place	
Building codes and inspection help insure good house construction.	Measuring to find out how far apart the rafters are placed, according to building code requirements Finding out about the tools used in construction of frameworks and preparing an exhibit of tools	
Walls serve different functions and are constructed of different materials according to the purpose to be served by the wall.	Discussing the functions of walls, as: enclosing space protection from weather protection of privacy providing something to which finishing materials can be attached support for the roof	VIII

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
The house is a tool for living:	Asking the man in charge of building, the difference between bearing and non-bearing walls	
control of heating and lighting	Making a study of inner walls and outer walls as, to:	
control of moisture	the differences in the purposes of the walls	
control of light	the differences in the materials used	
control of traffic	the differences in the method of construction	
Sheathing is the first step in covering the framework of a house and may be of gypsum, insulation or wood.	Looking at houses under construction to discover why the first step in covering the framework of a house is called sheathing	
	Finding out about the different kinds of sheathing used in building houses	
The type of material used for sheathing governs the method of application.	Finding out:	
	the advantages of gypsum, insulation, and wood sheathing	
	the method of applying each type of sheathing	
	the reasons why wood sheathing is put on diagonally	
	The kinds of lumber used in wood sheathing	
We can review our knowledge by making a book.	Making a book called "The Walls of the House"	
	Writing chapter for the book giving the function of walls in a house	
	Looking up pictures of house building to see how sheathing is applied	
	Looking up the word diagonal in the dictionary to find its exact meaning	
	Discussing the difficulties caused by warping and shrinking of lumber and ways of controlling each	

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences

Techniques

Using different methods to find out how walls of frame houses are constructed and writing a chapter for the book on walls, as:

the kinds of lumber used

ways of finishing outside walls of a frame house

advantages and disadvantages of frame houses

Reading to get information about how lumber is made:
Discussing such topics as:

size of trees cut

how trees are cut

how logs are gotten out of the woods

what happens at a sawmill

Looking at a movie to see the above processes

VII

Looking at a movie to see how plywood is made

VII

Visiting a sawmill in the neighborhood

III

Visiting a lumberyard in the neighborhood

Looking at pictures to get data to use in the book

Collecting pictures for the book on walls

Each of the several materials used for house construction has merit relative to the specific purpose for which it is used.

Reading to find out how brick walls are made, as to:

the patterns in which brick walls are laid

the thickness of brick walls

the kinds of tools used by bricklayers

how masons keep walls straight, level, and even so they will not fall down

how bricklayers get their materials to the place where they are working

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
Brickmasons work at constructing walls, chimneys and fireplaces	how much pay bricklayers receive a day	
	how long it takes bricklayers to learn to do their work and how they learn to do it	
	Writing a chapter for the book explaining about masons and their work	
	Measuring a brick to get an understanding of its size and shape	
	Reading to find out about the building of chimneys:	
	the use of the chimney	
	the kinds of materials that may be used	
	how chimneys are constructed	
	how to make chimneys fireproof	
	the importance of constructing chimneys correctly for good draft	
	Collecting pictures showing chimney construction	I
	Discussing how fireplaces are built as to:	VIII
	the kinds of materials used	
	the importance of having a good chimney	
	the draft in a fireplace	
	the size in relation to the chimney	
	the fire dogs and other equipment	
	the need for using a screen in front of a <u>fireplace</u>	
	Collecting pictures to show differences in mantels, in sizes, in construction	
	Discussing why most fireplaces are not good room heaters - why they are extravagant of <u>fuel</u>	VII

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences:

Techniques

Plumbers and electricians help the builders get the house ready to live in.

Discussing the work of the plumber in installing

gas stoves
furnaces
water pipes
fixtures

Talking about why pipes, wires, etc. are placed between the inner and outer walls of houses

Reading to find out how plumbers and electricians help the builders get the house ready to live in

Finding out the kinds of materials plumbers and electricians use in carrying on their work

Making an exhibit showing the kinds of materials they use

I

Writing a chapter for the book telling of the interesting things to be found between the walls of a modern house and the great services they provide

Heating facilities are necessary in a home. There are different kinds of heating equipment, having greater or lesser degrees of efficiency, according to the use made of them.

Listing ways in which heat is used in a house

I

Discussing the equipment needed for holding fire as:

stoves
furnace
fireplace, etc.

Observing stoves to see the essential parts of a stove as:

top
fire box
oven
draft
special functions of each part

Collecting pictures to show the various part of stoves in use today

I

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
Roofing materials vary in quality, use and cost	Looking at pictures of stoves used in former days	
	Discussing the differences between a stove and a furnace	VIII
	Examining a furnace to see how it works	
	Making a chart showing kinds of fuel used in furnaces	I
	Collecting pictures of various kinds of roofs and roofing materials	
	Making a collection of roofing materials and arranging them for study and display	
	Discussing why it is economical to buy the best roofing materials on the market	VIII
	Writing for illustrative materials on roofing	
	Discussing the chief dangers from poorly constructed roofs and how these dangers can be avoided	
	Telling stories of fires and how they started	
	Listing new words used in talking and writing about roofs and getting them ready for the Builder's Dictionary as:	I
	roofs sloping caves gutter rafters	tile shingles fireproof asbestos sheathing chimney peaked leaking ridgepole insulation
	Finding out how inner walls are made by asking carpenters such questions as:	
	why space is left between the two sides of a partition	
	how the plastering is fastened to the wall	
	why some plaster is white and some is dark	
	why plaster makes a good coating for an inside wall	
	how plaster is made, etc.	

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences

Techniques

Making some plaster to use as basis for gifts

Walls may be insulated by any of several materials

Studying the problem of how walls are insulated by doing some of the following things:

collecting insulating materials to find out what is being used

making a chart giving facts about insulation by listing the different kinds of materials used I

using trade name, describing appearance, explaining how use, showing sample if available

collecting pictures showing workmen using insulating materials

writing for illustrative materials on insulation

Insulation serves the distinct purpose of keeping heat

Listing reasons why houses should be insulated I

inside a house in cold weather and of deflecting heat in warm weather.

Writing a chapter for the book giving information about insulating materials

Setting up standards for proper insulation as to:

heat resistance

durability

weight

effect on health

proof against vermin and insects

etc.

Setting up standards of good walls, as:

strength

durability

insulation

fire-proofness

sound proofness

moisture-proofness

finish suitable for applying various kinds of finish, etc.

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences

Techniques

Making a chart showing the standards of good walls and ways of attaining each standard

I

Making an exhibit showing building materials used for walls by:

I

collecting samples of materials

collecting pictures showing types of finishes

collecting wallpaper samples

Watching workmen hang doors and windows and understanding the importance of doing this exactly right

Getting an explanation of how windows are made to slide up and down easily

Discussing parts of the house which carpenters do not make on the job, as:

window frames

windows

door frames

doors

etc.

Visiting the lumberyard to find out how frames for doors and windows are made and the reason for this

Collecting pictures of interesting doors and windows and writing captions regarding points of interest

I

Setting up standards of good windows and doors, as to:

ventilation

insulation

exclusion of pests

exclusion of odors

exclusion of noises

case of locking

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings

Experiences

Techniques

Glass is a part of modern house construction in many ways.

Reading to find out about glass as to:

how glass is made

materials used in making glass

reasons why glass is becoming more popular as a building material

new uses for glass in house construction

Examining a piece of glass from a very early house to see the defects and noting improvements in glass making

Examining a glass block and discussing its merits as a building material

Visiting a house to observe weather stripping III

Discussing the purpose of weather stripping VIII

Watching workmen fitting screens to windows and doors

Observing and asking questions of the man in charge of building to find out the differences between a floor and a sub-floor, as to:

the different kinds of materials used in each

the method of laying each

the difference in cost

the difference in appearance

Discussing the relation between each of the following: VIII

joists and floors

diagonal sheathing and sub-floor

softwood and sub-floor

hardwood and floor

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
Hardwood and softwood are used in flooring	Making an exhibit of flooring materials	I
	Reading to find out the differences between hard and soft wood trees as to:	
	distinctions in kinds of leaves	
	distinctions in quality of wood	
	Making lists of hardwoods and of softwoods	I
	Projecting a map of the U. S. for a study to see where the hardwood areas and the softwood areas are located	
	Collecting pictures of each of the two kinds of trees	
	Getting specimens of the trees showing the leaf	
	the bark	
	the wood	
Special tools are used in finishing a floor.	the bud	
	the seed	
	etc.	
	Mounting the specimens for study	
	Asking at a hardware store to see a sanding machine and getting an explanation of how it works	
	Getting an opportunity to see how carpenters use a sanding machine in finishing or refinishing floors	
	Discussing the causes of squeaky floors and how to stop them from squeaking	VIII
	Visiting the paint department to ask about different ways of finishing floors	III
	Measuring the ceilings of rooms at home to find out the height	
	Finding out how high ceilings are in ordinary homes	
	Making a collection of various kinds of ceiling materials and preparing an exhibit	

Major Problem: Houses (Cont'd.)

Sub-Problem G. What should I know about the construction of a house?

Understandings	Experiences	Techniques
	Making a chart showing a list of openings, the various types of each kinds, the function of each kind	I
	Making a display of the work that has been done on this unit. (Invite parents and other visitors to see the display).	I
	Play "Twenty Questions" to evaluate what we have learned about furnishing a house.	VI

Major Problem III: What do we need to know about houses as a part of our program of living?

Sub-Problem H: What do I need to know about furnishing a house?

Understandings	Experiences	Techniques
We enjoy many different activities in our house	<p>Discussing things we do in our homes, as:</p> <p>sleeping and resting</p> <p>preparing and eating our food</p> <p>playing with family members and alone</p> <p>working at many jobs and hobbies</p> <p>listening and viewing TV</p> <p>listening to the radio or records</p> <p>talking with visiting friends and family members</p> <p>watching life outside our home</p> <p>writing letters and drawing pictures</p> <p>reading our books and studying our lessons</p> <p>singing songs and dancing</p> <p>practicing health habits</p> <p>storing our toys, clothes, food, etc.</p> <p>having fun and nonsense</p> <p>worshipping God</p> <p>caring for our pets</p> <p>living and planning together as a family</p> <p>etc.</p>	VIII
Names of the rooms tell about the rooms' activities	<p>Grouping activities performed in each room and estimating the time for each activity as well as the people involved</p> <p>Discussing when these activities are performed as a reason for wanting the room to be private public, bright, light, dark, warm, cool, cheerful and/or attractive</p>	<p>I</p> <p>VIII</p>

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings

Experiences

Techniques

Observing the activities of one member of the family during an evening and planning a place particularly suited to his needs, as:

the father who reads the paper, smokes his pipe, plays with his children on the floor, watches TV, etc.

the mother who mends our clothes reads the newspaper, plays checkers with her child, etc.

Making diagrams showing furniture arrangement for specific activities enjoyed

Activities help determine furniture arrangement

Bringing doll furniture to class and arranging it to show activity groupings:

for reading

for talking

for playing games

for watching TV

Listing the furniture in our home to see the kinds selected for the specific activities performed in each room

Determining the placement of furniture by its use

Collecting and displaying pictures of rooms showing arrangement of furniture. (Include I pictures for each room — kitchen, dining room, bedroom, etc.)

Listing the furniture in each separate room and discussing its use in that room

VIII

Discussing kinds of furniture that are placed against the wall or away from the wall. Deciding reasons for placement in the room.

VIII

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings

Experiences

Techniques

Listing tall and low furniture; deciding how these pieces may be arranged in a room

Making diagrams illustrating the placement of tall and low furniture in the same room

Visiting furniture stores to observe:

III

the materials of which furniture is made

the kinds of finish on furniture

multiple uses of furniture pieces

differences in size, shape, style, etc. of a particular kind of furniture, as:

chair
bed
desk
table
etc.

differences, and reasons therefore, in cost of a particular piece of furniture

differences and similarities in style, lines, ornamentation, etc.

arrangement of furniture in room groups

Furniture is selected for its intended use — either practical or artistic use

Determining our selection of furniture by its intended use and the following:

size of our rooms

size of furniture pieces needed

uses of furniture in a particular room

durability of a particular piece of furniture

daily care needed and time involved in such care

amount of money we can spend

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings	Experiences	Techniques
	style we desire	
	color scheme we desire	
A color scheme is a color plan of harmony	Visiting living rooms in the neighborhood to observe color schemes and to find out from the owners why certain colors were selected	III
	Evaluating the various color schemes as to their value in producing certain effects	
	Listing uses of the different colors for the walls, curtains, rugs, slipcovers, etc.	
	Discussing ways of getting color accents by using such room accessories, as:	VIII
	flowers	
	lamps	
	candlesticks	
	baskets	
	pillows	
	books	
	bookends	
	pets (fish - birds)	
	Observing your classroom display of pictures of rooms showing arrangement of furniture -- analyzing each picture in terms of the colors used to:	
	create warmth or coolness depending on the placement of the house on its lot according to the points of the compass	
	give less or more light	
	achieve brightness, quietness, etc.	
	create any desired effects in the room	
	Selecting the pictures which are best liked and determining if the color scheme displayed is the reason for the choices	

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings	Experiences	Techniques
Colors are selected for varied effects	<p>Listing the color schemes used for the various rooms and trying to determine the reason for the choice of colors in the color scheme; discussing the effects achieved</p> <p>Going to the windows to observe nature's color schemes and their accents</p> <p>Observing the color schemes on our pets</p> <p>Seeing the combination of colors in any picture</p>	
Windows contribute to our comfort and the beauty of the room	<p>Studying the problem of how windows contribute to the comfort and attractiveness of the room, by:</p> <p>looking at windows in homes to see the different kinds of window furnishings such as:</p> <ul style="list-style-type: none">shadesvenetian blindsglass curtainsdraperiesvalancesawnings <p>looking at windows in homes to see the harmony of colors by the draperies and the furnishings by:</p> <ul style="list-style-type: none">contrast in color, design, texturerepetition in color, design, textureusing solid and mixed color combinationscollecting samples of window curtain materials to see:<ul style="list-style-type: none">the kinds of cloth usedthe quality of clothsuitable designs or patterns	

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings

Experiences

Techniques

selecting samples of curtain materials
suitable for use in different rooms
and deciding why these materials may
be best for a particular room's activ-
ities

mounting samples on paper and labeling I
them to use for display purposes

reading how to launder curtain materials

giving a series of demonstrations on how
to launder different curtain fabrics and
styles

reading to find out about the fabrics
used in making curtains

making and designing curtains for a
room in your own home

studying the advertising for curtains
to see the words used and their meanings.

sunfastness
laundering
shrinking
low cost
bargain
etc.

all coverings are used
for background beauty
and to create varied
effects desired

Discovering ways of covering the walls for
comfort, attractiveness, and utility

looking at rooms in the community homes
to see the various kinds of coverings
used on walls

collecting samples of wall materials
(coverings) of various kinds and
experimenting as to the methods of
cleaning and classifying wall coverings

those which can be washed

those which can be cleaned, but not washed

those which cannot be cleaned

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings	Experiences	Techniques
	visiting a paint store to find out the two important kinds of paint which can be used on walls	III
	getting prices of water paint and oil paint — comparing the prices and values	
	reading to find out how paints are made	
	getting advertisements, instructions, and color charts to use in studying the problem of paints	I
	writing a pamphlet on the use of paints telling such things as:	
	. how to open packages or can of paint	
	how to mix paints for use	
	how to keep paints in good condition for use	
	how to select a brush for large work and for fine work	
	how to dip paint to keep from wasting it	
	how to apply the paint to the surfaces	
	how to clean brushes and store them	
Wallpapers differ in many ways	Examining samples of cheap wallpaper and expensive wallpaper to discover the differences in texture, weight, strength, patterns, color, and the like	
	watching a paper hanger at work to see how wallpaper is hung	
	reading to find out how paste is made and the differences in the kinds of paste	

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings	Experiences	Techniques
	discussing the kinds of paper best suited to different rooms	VIII
	selecting paper for each room of the house — suitable in design and to color for the program of living which is carried on in that room	
	selecting wall coverings in relation to the harmony in your color scheme desired	
	discussing how to use designs to increase or decrease the size of the room; showing how this is done with stripes going horizontally or vertically	VIII
	demonstrating how pictures may be made to relieve the monotony of large walls	II
	demonstrating how pictures may be used as centers of interest on walls	
	demonstrating how pictures should be hung	
Floor coverings are used for effects and comfort	Demonstrating how floor coverings help in creating a desired effect in the various rooms of the house	II
	looking in catalogs to discover the kinds of coverings offered for sale and listing them	
	discussing the reasons for covering floors and evaluating the floor coverings in terms of these reasons	VIII
	discussing the work involved in caring for floor covering types	
	finding out how carpets and rugs differ	
	finding out how carpets and rugs are made	
	examining carpets or samples of carpets to find out how they are woven	

Major Problem III: Houses

Sub-Problem II: What do I need to know about furnishing a home? (cont'd.)

Understandings

Experiences

Techniques

looking at pictures of weaving patterns
to see how weaving is done

reading to find out fibers used in making
rugs and carpets

examining looms to see how weaving is
done

experimenting with simple looms to see
how weaving is done

finding out about linoleum by doing such
things, as:

reading about the materials used in
making linoleum and how linoleum is
manufactured

looking at linoleum patterns to see
the colors used, the type of patterns
used, etc.

finding out how linoleum is laid

discussing linoleum for covering living
room, schoolroom, porch, bathroom floors

discussing why linoleum is so frequently VIII
used on kitchen floors

finding out how to care for linoleum

making linoleum patterns

discussing reasons for using floors without
coverings and listing the advantages and VIII
disadvantages of such practice

making miniature floor coverings.

Determining an arrangement of furniture in
the room by:

activities enjoyed

light needed

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings	Experiences	Techniques
	ventilation needed	
	atmosphere desired	
	design wanted (even or uneven; balanced or unbalanced; formal or informal)	
	centers of interest	
	room traffic	
Movement in the house should be easy	Planning ways of arranging furniture to facilitate movement within the room and movement from room to room	
	Making diagrams to show lines of travel blocked or free	I
	Discussing how to gain a pleasing appearance in each room by:	VIII
	using a color scheme (blending or contrasting)	
	planning an over-all design to fit the activities enjoyed in the program of living	
	selecting some attractive feature of the room as a picture, window, fireplace, TV, etc., and arranging the furniture to make it the center of interest	
	use of varied textures in cloth, wood, etc., to achieve varied effects	
	Making a series of miniature rooms to solve specific problems of furnishing a house, as:	
	How do we make a room seem smaller or larger by using color?	
	How do we arrange furniture to meet the specific needs of the family members?	
	How do we add warmth or coolness to a room by using floor coverings?	

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings	Experiences	Techniques
	How do we get more or less light in the room?	
	How can we treat the windows to give sufficient ventilation to the room?	
	Discussing ways of making miniature rooms using boxes from which the tops have been removed. Allowing the sides to represent the four walls and the bottom to represent the floor	
We use color, design, and texture to furnish a home	Discussing ways of getting furniture for the miniature rooms, as: bringing in doll furniture reproducing furniture in miniature by using wood, cardboard, etc. making objects which will symbolize furniture by using solid blocks of wood or pasteboard boxes of proportionate size and shape to represent beds, chairs, etc., but not attempting to construct furniture realistic in detail making furniture which is merely representative or symbolic in form as a means of saving time and expense of construction collecting tiny blocks of wood, pieces of upholstery of solid color, tacks, glue, cardboard, paper fasteners, paint, etc., and experimenting to find ways to construct objects which will represent the various pieces of furniture, such as: using a block of wood with cardboard foot and head to represent a bed using two blocks of wood glued together to represent an upright piano using thin piece of plywood and four small nails or tacks to represent a table	VIII

Major Problem III: Houses

Sub-Problem H: What do I need to know about furnishing a house? (cont'd.)

Understandings

Experiences

Techniques

using a block of wood for a chest-of-drawers with upholstering tacks to represent drawer handles, etc.

Determining the size of boxes to be used for rooms suggesting the relative proportionate size of bathrooms, kitchens, living rooms, bedrooms, halls, etc.

Arranging ways of getting the boxes or bringing them to school

Playing "Twenty Questions" to evaluate what we have learned about furnishing a house

VI

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Major Problem IV: How can we promote and maintain good health?

Sub-Problem A: What is good health? (Introduction)

Understandings	Experiences	Techniques
Good health is important.	Discussing signs of health — good or bad	VIII
	Making a definition of <u>health</u>	
	Making a list of signs of good health to use with a display of pictures	
	Collecting pictures which illustrate such things as:	
	clear skin	
	bright eyes	
	shining hair	
	well nourished body	
	good teeth	
	cheerful disposition	
	enjoyment of work or play	VIII
	clean body	
	good posture	
	Displaying the pictures	
	Discussing and listing reasons for having good health, as:	
	helps to keep us free of disease	
	helps us feel better	
	helps us look better	
	helps us play better	
	helps us work better	
	makes us easier to live with	
	makes us happier	
	makes us more successful	

Major Problem IV: How can we promote and maintain good health?

Sub-Problem A: What is good health? (Introduction - cont'd.)

Understandings	Experiences	Techniques
There are ways to develop and promote good health.	<p>Listing things you do to promote and maintain good health, such as:</p> <ul style="list-style-type: none">proper dietproper restproper care of skin, teeth, eyes, ears, hair, handsregular exercisesregular physical checkupshappy thoughtsfriendly attitudes	I

ub-Problem B: How does cleanliness promote good health?

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Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings

Experiences

Techniques

Planning to make a booklet on Personal Cleanliness

Collecting pictures to put in the booklet to be developed as the unit progresses, and
Arranging the pictures according to areas of cleanliness, as:

I

skin
teeth
hands and nails
hair
feet
clothing
etc.

Making a folder to keep pictures until ready to use in the booklet

Studying filmstrips, as:

Keeping Clean FS 713

Keeping Clean FS 1581

VII

Keeping Germs Away FS 1582

Your Skin FS 1600

Choosing ideas from the filmstrips to use in the booklet

Keeping a record of full baths taken each week

I

Setting up standards for the use of the bathroom

Copying these standards in the booklet

Collecting pictures of bathrooms to illustrate the standards set up

Writing captions for the pictures

Listening to the story of how soap is made

Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings

Experiences

Techniques

Collecting soap labels and choosing soap, suitable for use on the skin

Making liquid soap using bits of leftover soap or soapflakes, warm water, glycerin, and alcohol

Making wash cloths by hemming usable parts of old towels

Discussing the importance of wash cloth to prevent VIII spread of infection

Writing a chapter for the booklet on "Why Bathing IV is Necessary"

Making soap dishes of clay and firing them

Making up a Good Health Train using cut-outs of drawings for the separate parts. Load the first car with habits of personal cleanliness

Reading about the value of strong teeth

Discussing the relation of cleanliness to strong VIII teeth

Reading about how to brush the teeth

Demonstrating the proper way to brush teeth using II cardboard model

Writing to toothpaste companies for free illustrative material on the care of our teeth

Setting up standards for care of the teeth

Discussing most suitable types of tooth brushes VIII

Setting up standards for care of a toothbrush

Collecting pictures showing care of teeth to use in the booklet

Choosing pictures to use in making posters about the care of teeth

Making a chart to show foods that build strong teeth I

Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings	Experiences	Techniques
	Discussing the value of milk in the diet in relation to strong teeth	
	Discussing the meaning of temporary teeth and permanent teeth	
	Looking at pictures to understand why it is important to take good care of baby teeth	
	Listing ways our teeth help us	
	Listing ways to misuse teeth	
	Making a picture chart to show how we misuse our teeth and listing things to avoid	I
	Reading about and discussing the parts of a tooth	
	Making a diagram to illustrate the parts of a tooth	
	Studying pictures to understand how decay ruins a tooth	
Proper care of the teeth prevents decaying teeth and diseases of the gums.	Making a list of ways dental cavities develop	I
	Discussing the relation of sweets, soft drinks, and poor dental hygiene to tooth decay	VIII
	Planning a trip to the dentist's office to learn how he cleans teeth and the instruments he uses	III
	Learning how to make a dental appointment by telephone to have the dentist demonstrate cleaning teeth	
	Writing a "thank you" note to the dentist	
	Making a simple dentifrice using salt, soda, and peppermint flavoring	
	Bringing a toothbrush to school and demonstrating the correct way to use it	II

Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings	Experiences	Techniques
	Discussing the proper care of a toothbrush	VIII
	Discussing the need for own toothbrush	
	Studying Film F 423A <u>Save the Teeth</u> and Filmstrip FS 885 <u>The Teeth</u>	VII
Unclean hands carry disease germs.	Discussing the need for well kept hands and fingernails	VIII
	Discussing the habit of nail biting	
	Reading about how to care for the hands	
	Demonstrating how to wash the hands	II
	Demonstrating how to manicure the nails	
	Listing uses of the finger nails	
	Listing articles necessary for proper care of the hands	
	Shopping for hand care articles	
	Collecting pictures showing well-kept hands to use in the booklet	I
	Writing captions for the pictures	
	Writing the chapter on <u>Good Hand Care</u> for the booklet	
	Collecting articles to use in good hand care	
	Using the articles to help keep the hands looking nice	
	Making a chart showing times one should wash the hands	I

Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings

Experiences

Techniques

Developing a culture to illustrate the idea of germs on dirty hands and examining it under a microscope

Writing up the experiment for the notebook

Reading stories from Johnny Microbe

Finding out how we use handkerchiefs and kleenex

Keeping a record of well groomed hands as a result of daily inspection

I

Making and using a simple, inexpensive hand lotion daily

Choosing pictures from the picture file related to caring for the hair

Using the pictures as a basis for discussion of well cared for hair and scalp

There are ways to keep the hair and scalp healthy.

Discussing the various styles of hair-dos as to becomingness, age, etc.

Reading about how to shampoo the hair

Demonstrating how to shampoo the hair

II

Writing an experience chart telling the steps in shampooing the hair

IV

Listing articles needed for caring for the hair

Discussing the value of brushing the hair

Discussing proper care of comb and hair brush

VIII

Discussing the reasons for individual comb and hairbrush

Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings

Experiences

Techniques

Reading about the relationship of diet to healthy hair

Making a list of the things the hair does for us

I

Writing a chapter on Care of the Hair for the booklet

Proper care of the feet is important.

Putting in pictures to illustrate parts of the chapter

Discussing care of the feet emphasizing such points as:

VIII

why it is important to keep the feet clean

when to bathe the feet

what is meant by good arches

why it is important to wear shoes that fit properly

how stockings are related to healthy feet

Discussing why healthy feet are important

Listing the reasons

Reading about care of the feet

Writing a chapter on Care of the Feet for the booklet

Illustrating points brought out in the chapter through the use of pictures

Making pictures of own footprints for study and to put in booklet

Making a plaster cast of footprints

Major Problem IV: How can we promote and maintain good health?

Sub-Problem B: How does cleanliness promote good health? (cont'd.)

Understandings	Experiences	Techniques
We evaluate to find out what we have learned.	Visiting a shoe department to see various styles of shoes and have the salesman discuss the points good and bad about the different styles	III
	Reviewing information learned on the visit	
	Setting up standards for buying shoes	
	Copying the standards for the book	
	Checking on own shoe and sock to see how well they fulfill standards set up	
	Studying X-ray pictures of feet	
	Keeping a record of number of footbaths per week	I
	Keeping a record of sock changes per week	
	Demonstrating sock washing	II
	Planning a play based on learnings related to cleanliness and health	V
	Practicing the play	
	Evaluating the rehearsals	
	Finding ways to improve the play and the rehearsals	
	Deciding on costumes	
	Making simple costumes if necessary	
	Planning to give the play to an audience	
	Writing invitations to the play	
	Making programs for the play	
	Presenting the play to the audience	

Major Problem IV: How can we promote and maintain good health?

Sub-Problem C: How does good posture aid good health?

Understandings	Experiences	Techniques
Good posture habits help maintain good health.	Looking at pictures or posters of people standing, sitting, walking	
	Discussing the meaning of the word <u>posture</u>	
	Discussing why one position is better than another in the pictures	VIII
	Reading to find out what is meant by good posture	
	Reading to find out why good posture is important	
	Practicing good posture to protect the eyes	
	Listing the reasons on the chart	
	Copying the reasons in the booklet	
	Demonstrating proper sitting, standing, and walking postures	
	Discussing the purpose of the framework of the body	
	Looking at pictures of the framework in different positions	
	Discussing the effect of poor posture in relation to growth of bones and internal organs	
	Reading about the relationship of posture to mental health	
	<u>Adding a Good Posture car to the Good Health Train</u>	

Major Problem IV: How can we promote and maintain good health?

Sub-Problem C: How does good posture aid good health? (cont'd.)

Understandings

Experiences

Techniques

Discussing and listing some causes of poor posture

Making a list of the kinds of work where posture is especially important

Making a picture chart to show workers in sedentary occupations

Playing games that encourage or promote good posture

Major Problem IV₃: How can we promote and maintain good health?

Sub-Problem D: How can a knowledge of proper rest aid our health?

Understandings	Experiences	Techniques
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Listing ways of resting as:

sleeping

lying down

sitting down

change of occupation

amusement

Making a chart to show ways of resting

I

Discussing why rest is necessary to the body

Rest is necessary
for growth.

Reading to get information about the necessity
of planning for rest in a daily schedule

Discussing the importance of sleep in relation to: VIII

body growth

disposition

quality and amount of work

appearance

Writing a paragraph on the importance of sleep for
the booklet

Adding the car of Rest and Sleep to the Good Health
Train

Keeping a record of the number of hours you sleep
each night

I

Reading to find out how many hours of sleep a child
your age needs and comparing your record of sleep
with the recommended hours of sleep

Major Problem IV: How can we promote and maintain good health?

Sub-Problem D: How can a knowledge of proper rest aid our health?

Understandings

Experiences

Techniques

Planning with your family as to how you may get more hours of rest and sleep if you are not getting enough

Reading to find out good conditions for sleeping, as:

quietness

darkness

fresh air

warmth

Good sleeping conditions are necessary for restful sleep.

comfortable bed

clean loose sleeping garments

light coverings

clean bed clothing

proper diet at night meal

freedom from fears

freedom from exciting experiences

etc.

Making a list of things to do when getting ready for bed which can be made into regular habits of sleep and rest, as:

remove all your clothing

take a full bath, if possible

take a sponge bath — especially face, hands, arms, feet

brush your teeth thoroughly

I

Major Problem IV: How can we promote and maintain good health?

Sub-Problem D: How can a knowledge of proper rest aid our health?

Understandings	Experiences	Techniques
	go to the toilet before going to bed	
	arrange clothing to be worn next day	
	say your prayers	I
	read or listen to a beautiful story, poem, or music	
	sleep with the windows open except in severe weather	
	sleep in the dark	
	in cold weather, sleep with enough light weight covers	
	avoid sleeping in a draught	
	sleep alone if possible	
	Copying the list in your booklet	
	Making a chart to show regular habits of sleep and rest	I
	Studying the filmstrip, FS 717, <u>Sleep and Rest</u>	VII
	Collecting pictures to illustrate each good condition	
	Using the pictures to make a chart and print- ing the proper caption under each picture	I
	Discussing the qualities of good sleeping garments as to:	
	cloth used	
	the size	
	how they are made	
	the laundering qualities	
	attractiveness	
	etc.	

Major Problem IV: How can we promote and maintain good health?

Sub-Problem D: How can a knowledge of proper rest aid our health? (cont'd.)

Understandings

Experiences

Techniques

Studying pictures of styles of sleeping garments

Looking in mail order catalogues and newspaper ads to determine prices

Collecting pictures of types of bedding, as:

sheets
pillow cases
blankets
quilts
comforts
spreads
pads
etc.

Discussing the purposes of each

VIII

Discussing and listing the qualities of a good bed, as:

the size
the springs
the mattress
the pillows
the linens
the bed covers
etc.

Making a list of ways to care for the beds, as:

I

method of making
the laundering of sheets and pillow cases
airing the bed clothes and the bed
turning the mattress

Major Problem IV: How can we promote and maintain good health?

Sub-Problem D: How can a knowledge of proper rest aid our health? (cont'd.)

Understandings

Experiences

Techniques

Listing ways to make the sleeping room attractive and restful through such things as: I

selection of simple furniture

use of color

restful designs, in wall coverings, curtains, and floor coverings

daintiness and cleanliness

arrangement and order, etc.

Listing ways to make sleeping rooms convenient through provision for:

closet space

drawer space

nearness to bath

sufficient space for needed furniture

number and properly located electrical outlets

Collecting and reading poems having to do with sleep and rest

Looking at pictures suitable for a bedroom

We evaluate to find out what we have learned.

Play a Question game to find out what we have learned about rest.

VI

Major Problem IV: How can we promote and maintain good health?

Sub-Problem D: How can a knowledge of proper rest aid our health? (cont'd.)

Understandings

Experiences

Techniques

dusting the springs and bedstead

washing the slats

caring for the pillows, etc.

Collecting and displaying pictures of beds to study style, size, material used in construction

I

Stenciling designs on pillow cases by different simple methods

Weaving a small blanket by weaving small squares and joining them together

Demonstrating the way to make a bed, using the cot in the health room

IV

Practicing bed making

Discussing and listing the equipment of the sleeping rooms for rest, as:

VIII

Comfortable beds and proper equipment is necessary for restful sleep.

equipment for sleeping

bed, couches, etc.

equipment for controlling ventilation

windows

screens

transoms

fans

equipment for controlling light

lamps

shades

curtains, etc.

equipment for controlling temperature

radiators

windows

fans

stoves, etc.

Major Problem IV: How can we promote and maintain good health?

Sub-Problem E: How do good mental health practices promote our well-being?

Understandings

Experiences

Techniques

Writing a paragraph to tell why you like your best friend

Listing the descriptive words used

Making a list of words which might be used to describe the people we like, as:

I

cheerful
kind
friendly
helpful
fair
gentle
thoughtful
industrious
etc.

Discussing ways in which other people form their opinions of us VIII

Good mental health habits contribute to good bodily health.

Discussing the meaning of mental habits and their effect upon the disposition and character

Adding a Healthy Mind car to the Good Health Train

Discussing the effect of friendliness and cheerfulness on one's feelings

Reading stories which show how being helpful to other people helps us to find happiness

Discussing such topics, as:

Right thinking leads to happiness

Looking at the bright side helps clear away the clouds

VIII

Good sportsmanship and mental health

How to learn from failures

How to promote mental health in the classroom or home

The relationship of right thinking to success

Major Problem IV: How can we ~~promote~~ and maintain good health?

Sub-Problem E: How do good mental health practices promote our well-being? (cont)

Understandings

Experiences

Techniques

Learning to be responsible as a way to right thinking

"He who controls himself is greater than he who captures a city"

Making a list of ways to improve your mind, as: I

Learn to think out your own problems

Ask for help only when you need it

In school do not run away from hard work.
Build up confidence in yourself and work
will not seem so hard.

Learn to accept limitations, as:

smallness of size

need for glasses

hearing aids, etc.

Reading about great men and women to try to follow their examples

Selecting good radio and television programs that help you learn more about events and things of everyday life

Talking to persons who are older and wiser to learn interesting and helpful things

Listening to beautiful music as a way to be entertained, rested, and to fill in leisure time

Looking at beautiful pictures and other works of art

Looking at the sky, trees, mountains, and other beauties of nature

Becoming interested in such things as wild flowers, rocks, stars, butterflies, gardening, and making collections

Major Problem IV: How can we promote and maintain good health?

Sub-Problem E: How do good mental health practices promote our well-being? (cont'd.)

Understandings	Experiences	Techniques
Collecting poems on friendliness		
Making a list of habits to form, as:		I
Free yourself from worry		
Be cheerful		
Control your temper		
Be kind		
Be truthful		
Keep trying		
Be fair		
Be a good sport		
Be patient		
Be natural and friendly		
Be honest		
Be a good worker		
Have a sense of responsibility		
Do your duty		
Dramatize situations in which good mental habits are portrayed		V
Do what you do the best you can do it		
Try to make your <u>best</u> better		
Do to others as you would have them do to you		
Respect other people's property		
Respect the rights of others		

BIBLIOGRAPHY - HEALTH

O'Keefe, Patricia and others	<u>From Head to Toe</u> (Early Primary)	Winston 1954
Towse and Gray	<u>Health Stories, Book I</u> (Early Primary)	Scott, Foresman
Charters, W. W. and others	<u>Good Habits</u> (Later Primary)	Macmillan 1955
Hahn-Winslow	<u>Let's Grow Up</u> (Later Primary)	Charles E. Merrill
Towse and Gray	<u>Health Stories, Book III</u> (Later Primary)	Scott, Foresman
O'Keefe, Patricia and others	<u>How We Grow</u> (Primary)	Winston 1954
O'Keefe, Patricia and others	<u>Side by Side</u> (Primary)	Winston 1954
Towse and Gray	<u>Health Stories, Book II</u> (Primary)	Scott, Foresman
Hallock, Grace T. and others	<u>Health and Happy Days</u> (1st grade)	Ginn 1954
Jones, Edwing, and others	<u>My First Health Book</u> (1st grade)	Laidlaw 1949
Hallock, Grace T. and others	<u>Health in Work and Play</u> (2nd grade)	Ginn 1954
Jones, Edwing, and others	<u>My Second Health Book</u> (2nd grade)	Laidlaw 1949
Hallock, Grace T. and others	<u>Health and Safety for You</u> (3rd grade)	Ginn 1954
Jones, Edwing, and others	<u>Easy Steps to Health</u> (3rd grade)	Laidlaw 1949
Burkard, William E. and others	<u>All Aboard for Health</u> (4th grade)	Lyons and Carnahan 1953
Charters, W. W. and others	<u>Healthful Ways</u> (4th grade)	Macmillan 1955

Hallock, Grace T. and others	<u>Growing Your Way</u> (4th grade)	Ginn 1954
Jones, Edwing, and others	<u>Health Trails</u> (4th grade)	Laidlaw 1949
Hallock, Grace T. and others	<u>Keeping Healthy and Strong</u> (5th grade)	Ginn 1954
Turner - Pickney	<u>In Training For Health</u>	D.C.Heath
Turner - Morgan	<u>The Joy Family</u>	
Turner - Hallock	<u>The Voyage of Growing Up</u>	
<u>POEMS - SLEEP AND REST</u>		
Aldis	<u>Now We Are Six</u> "Cradle Song" "In the Dark"	Minton 87 99
Bouton	<u>Poems for the Children's Hour</u> "The Mouse's Lullaby" "A Candle" "The Sleepy Song" "Now Day is Over" "Good Night" "The Children's Bedtime" "Cradle Hymn"	Bradley 12 31 45 46 51 111 271
Huber	<u>The Poetry Book, Book I</u> "Sleep, Baby, Sleep" "Mother Moon" "Winter Night" "Wee Willie Winkie" "Bed in Summer"	Rand-McNally 30 31 54 56 117
Huber	<u>The Poetry Book, Book II</u> "Good Night and Good Morning" "Indian Lullaby" "The New Moon" "Wynken, Blynken, and Nod" "Lullaby" "Cradle Hymn"	Rand-McNally 31 117 40 56 56

Hufford	<u>My Poetry Book</u>	Winston
	"The Children's Hour"	109
	"In the Hour of Darkness"	119
Stevenson	<u>A Child's Garden of Verse</u>	Whitman
	"The Lamplighter"	44
	"Time to Rise"	50
	"Land of Nod"	54
	"Windy Nights"	17
	"Land of Counterpane"	23
	"Night Thoughts"	13
	"My Bed is a Boat"	14
	"Escape at Bedtime"	28
Thompson	<u>Silver Pennies</u>	Macmillan
	"Night Magic"	16
	"Mockery"	17
	"The Sleepy Song"	27
	"Evening Song"	26

RECORDS - SLEEP AND REST

Armitage	<u>Merry Music</u> (A Singing School Series)	Birchard
	"Day and Night Sleep Song"	Col. 35604
	"Good Morning Song Sweet and Low"	Col. 35605

Listening

Debussy	Au Clair de la Lune	V 22179
Barnby	Sweet and Low	
Mozart	Lullaby	
Schubert	Cradle Song	
Brahms	Little Sandman	V 22160
Rousseau	Hush, My Babe	V 20174
Brahms	Lullaby	
Barnby	Sweet and Low	
Traditional	Rock-a-Bye-Baby	
Hansel and Gretel	Sandman's Song	V 22175
	The Children's Prayer	V 22176
	The Little Sandman	V 25170
	When at Night I Go To Sleep	V 25170

Hoffman
Saint-Saens
Schuman
Schuman

Barcarolle
The Swan
Evening Song
Traumerei

V 20011

V 19854

Other Resources - Health

Sleep and Rest

Baltimore and Ohio Railroad Company, Baltimore, Md.
(Pictures of sleeping on a train.)

Beacon Blanket Company, New Bedford, Mass.
(Pictures of blankets.)

Denton Sleeping Garment Mills, Centerville, Mich.
(Samples of sleeping garments.)

Ostemoor and Company, Calumet Ave., Chicago, Ill.
(Booklet on mattresses.)

Owen Silent Spring Company, Inc., Dept. A., Bridgeport, Conn.
(Booklet on how to choose a mattress.)

Utica and Mohawk Cotton Mills, Utica, New York, Dept. G-H-I
(Booklet on restful sleep.)

AUDIO-VISUAL MATERIALS RELATED TO CLEANLINESS AND HEALTH

FILMSTRIPS

Keeping Clean FS 713
Keeping Clean FS 1581
Keeping Germs Away FS 1582
Keeping Well FS 718
Sleep and Rest FS 717
The Doctor FS 977
The Teeth FS 885
Your Skin FS 1600

FILMS

Save Those Teeth F 423S

SUGGESTED TECHNIQUES

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I. HOW TO PLAN ARTS AND CRAFT ACTIVITIES

Scrapbooks

This activity should have a directed purpose beyond "cut and paste!" Making a scrapbook can be a challenging individual or group product adaptable to a wide choice of topics and methods of treatment.

The lay-out needs to be planned with the individual pupil or group of pupils to insure the purposefulness of the activity. Items for inclusion should be selected with reference to this purpose. The teacher can effectively guide in the selection of items and at the same time accomplish incidental teaching.

The cover of the scrapbook, the materials used, and the format allow considerable opportunity for originality and utilization of many skills.

Displays or Exhibits

Some articles for display include:

Models	Foods
Charts, diagrams, posters, maps	Drugs
Ceramics	Appliances
Hand sewn articles	Supplies (stationery, books, etc.)
Craft items - wood	Equipment (athletic)
plastic	Hobby products
clay	Scrapbooks, class logs, diaries
leather	
metal	

Methods of Exhibiting or Displaying:

Bulletin Board
Hall Exhibit
Show Case
Centers of interest within room
Library "corners"
Portable screens
Table displays
Hangings (Textiles, prints, etc.)

Display "Tips":

Keep it simple
Avoid "cluttering" of objects
Aim for color harmony
Sample products in fair manner and display accordingly
Change frequently. (Give all pupils opportunity to display work.)
Allow for variety (Interest, subjects, etc.)
Encourage originality whenever possible.

Arts and Crafts (Continued)

Charts and Posters:

Printed charts and posters are available at little or no cost. These embrace many interest areas and cover a wide range of form, color, and/or purpose. Many, while essentially commercial tools of advertising, have definite educative value. There are several published lists of chart and poster materials among them,

Teacher's Guide to Free and Inexpensive Curriculum Materials. (Randolph, Wisc.)

stands out as an excellent reference for teachers of Special Education. From the Special Education Office a list of free materials may be obtained.

Making Charts, Posters

Materials: Poster board
Tagboard
Corrugated-backed carton cardboard
Illustration board
Cork-board
Paints
Ink
Brushes
Pens
Cut-outs, snap-shots, clippings,
figures, etc.

Outlining: Can be done free-hand or by projector technique. (See maps, outline.)

Lettering: Can be projected (and traced), done free-hand or by pasting cut-outs.

Variety: Poster can be made distinctive by using such variations as:

1. Pasting real fabrics on clothing models.
2. Three-dimensional effects (shadow art)
3. Applique of toy models on poster.
4. Providing moving parts (turning wheels by means of flashlight-battery simple motor).
5. Fluorescent paints.
6. Illuminated cut-outs (cathedral window, etc.)

Lay-out

"Tips:

1. Be consistent in lettering, i.e; upper and lower case.
2. Keep phrases or 'ideas' intact. (Don't split phrases)
3. Balance your "message" with figures, pictures, etc. Allow adequate space between letters, words, phrases.
4. Keep colors in harmony. Make letters bold enough to be seen at reasonable distance from chart.
5. Keep colors few in number. Too much variety "clutters".

Murals

Making a mural can be an individual or group project as a specific, progressive, or culminating activity. The mural follows a general theme, such as: the seasons, development of housing, development of clothing, etc.

The procedures involved in mural production are essentially the same ones that are covered in poster and chart techniques.

Pictures can be drawn free-hand or traced by 'projection' technique. Kraft paper is desirable as background material since it is available in wrapping roll form and will take tempera, ink, or chalk without "bleeding".

Pictures may be cut out and pasted to a background mural. This gives an opportunity for judgment as to size and color of pieces that will make the eventual mural i.e; "Our girl is this high. How large should the house be? Can you make a house that big?"

In using paint in making murals:

1. Choose brush size and table for work. Choose suitable for work.
2. Dip brush into paint only as far as half the length of the bristles.
3. Press brush against the inside lip of jar to remove excess paint. Leave only enough paint so that it will not drip when brush is lifted.
4. Use long strokes - side to side - painting the background on top of mural.
5. After completing background area, start work on figure farthest from you first.
6. Continue working from side to side and from top down.
7. Be sure paint is dry on one area before painting area next to it.
8. Outline figures or color areas first, then fill in.

Arts and Crafts (Continued)

Stick Figures

Stick figures have an appeal for pupils of all ages. They are simple enough to be drawn by the most untalented - and basic for full-figure drawing by the more artistic.

They can be used to illustrate almost any kind of action or purpose, and because of this easy adaptability are an excellent means of expression.

Variation can be provided by employing tooth-picks to build "stick characters" or buildings. These can be placed in modeling clay bases - parts joined with Duco or similar cementing material.

Other variations can be provided by:

1. Making figures by twisting soft, pliable wires, or pipe cleaners.
2. Anchoring in clay, wax, or wooden bases.
3. Applying directly to posters, bulletin boards or scrapbooks.

Models

Materials: Clay, plasticines
Wood
Cardboard
Wax
Soap
Plaster

Rubber, sponge
Felt
Wire
Paper (mache)
Plastic
Low-cost model kits.

Models have considerable appeal to students of all ages. Choice of media and techniques for constructing models is wide. Some procedures lend themselves to shop-centered, home-arts, or art activities. It is, therefore, recommended that the teacher consult art and shop teachers or reference books for detailed instructions on model construction.

Some models for consideration would include:

People
Buildings, towns
Means of transportation
Masks (famous persons)

Anatomic features
Animals
Industries
Roads

It is felt that pupils can be motivated to carry over model-making as an out-of-school activity as well as a classroom experience. Whenever possible, this should be encouraged. One means of stimulating interest in this area is to exhibit models made by students in their past experience. This will give an opportunity to capitalize on the technique of model-making for cooperative, creative production.

Recipe for papier maché:

To make pulp, tear or cut paper into small pieces; pour boiling water over paper until it is saturated, and beat on a washboard until it forms a pulp. Put one cup of this pulp into a pan, and mix thoroughly with: $\frac{1}{2}$ cup water; 1 cup liquid glue; $\frac{1}{3}$ cup boiled linseed oil

Arts and Crafts (Continued)

Add whiting or pulverized gypsum for strength. Keep mixing until you have three cups of gypsum or whiting mixed in. Keep dry cloth over this material until ready to use. If it hardens, add hot water to melt the glue. Mold to desired shape.

Maps

Printed Maps These can be obtained from many sources, e.g; gasoline companies and service stations, AAA, Park and Planning Commission, Government Printing Office, Airlines, etc. Many are free; others are available at nominal cost.

These maps may be used in the following ways:

1. To identify areas, cities, rivers, etc., by color, colored pins or flags.
2. To connect points of reference by ribbons or colored strings.
3. To supply a background for applying pictures - historical facts, major industries, birthplaces of famous figures, etc.

Making Outline Maps

Project picture of map on blackboard or bulletin board (prepared by covering with Kraft paper, tagboard or other.)

Have pupils trace outline with chalk, soft pencil, or Flo-pen. This will give basic outline map.

1. Add features as studies progress, i.e; local landmarks, rivers, cities, mountain ranges, etc.
2. Identify areas by color, applique of cloth or other paper.
3. Mark points of reference with large-headed colored pins, flags, etc.

Relief Maps

Use printed map or projected map as background, reinforced with rigid backing material such as heavy duty illustration board, fiber board, carton cardboard, or light plywood.

Make paste of 2 parts salt, 1 part flour, adding water to thickness desired. Mix in amounts adequate for desired coverage and "relief" effect. (To make map more "crystalline" add more salt to mixture)

Apply paste; work while it is still in a semi-soft state. When dry, substance will be rigid and crystalline in character.

Map can be painted with water color, tempera, or flat oil paints.

Other recipes:	2 cups salt	1 part flour
	1 cup flour	1 part salt
	1 cup water	1 part cornstarch
		water

Arts and Crafts (Continued)

Shoe Shine Box

1. Make a drawing, design, or sketch of box to specifications below.
2. Select the material for the box. (Soft pine is suggested.)
3. Transfer pattern to the wood used.
4. Cut along the transferred pattern lines.
5. Sand the pieces.
6. Assemble the pieces.
7. Sand again. If any nail holes, fill with plastic wood or putty. *
8. Give a wash coat of stain or shellac. When dry, go over with steel wool. Repeat this process until three coats of stain or shellac have been added.
9. Steel wool, wax and polish.

* If shellac is used, fill nail holes with plastic wood;
if stain is used, fill nail holes with putty.

BOTTOM

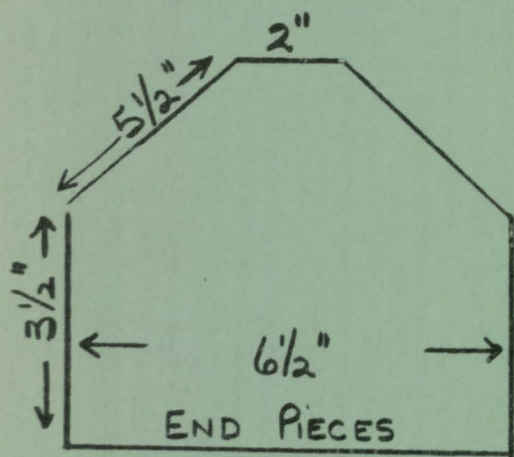
12" X 6 $\frac{3}{4}$ "

SIDE

12" X 3 $\frac{1}{2}$ "

SIDE

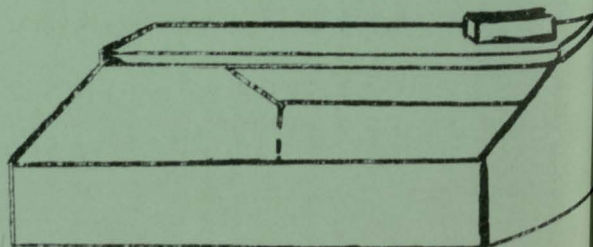
12" X 3 $\frac{1}{2}$ "



12 $\frac{1}{2}$ " X 2' X 3/4"

1/2" X 2"

HEEL BLOCK



COMPLETED SHOE BOX

Arts and Crafts (Continued)

Plaques, Pins

Obtain a supply of patching plaster (or plaster of Paris), some safety pins, adhesive tape, small fluted picnic plates, milk cartons, saucers, colorless nail polish, hairpins, spoons, rubber furniture cups, vaseline, and a supply of greeting cards.

1. Select the designs desired for pins or plaques from greeting cards
2. Prepare molds
Cut down empty milk cartons to within 1 inch from the bottom. If spoons, saucers, plates, or rubber furniture cups are used, grease slightly with vaseline
3. Place picture or design face down and mark with pencil or chalk on the mold, the top of pin or plaque
4. Mix plaster with water until it will pour, being careful not to make too thin
5. Pour plaster mix into mold and set in sun
6. When mixture begins to "set", insert hairpin in top of plaque for hanger. (Yarn or suspension ring hangers will do also.) In making pins insert safety pin in plaster being careful not to let head fall in too deeply, then place a piece of adhesive tape across pin to prevent it from breaking out later.
7. Allow to dry. When plaster is hard, ease plaque or pin from mold. A slight jarring of the mold will help ease out dried article. The cardboard and rubber molds are better to use since they are flexible.
8. Use emery board and smooth off ends, cover with colorless fingernail polish and allow to dry.
9. One pound of plaster will make two dozen pins and about six plaques.

Recipes

The following recipes will be helpful in supplying basic materials for use with children in craft work. Perhaps some children can make these supplies and store them for you. A child learns to do by doing and at the same time he can learn to be very helpful in planning and carrying out the program. Be sure that recipes are made in advance so that they may be tested if children have assisted. Proper labeling and storing will assist you in having a smooth-running program.

PASTE

1 pint cold water
 $\frac{1}{2}$ pint sifted flour
1 quart boiling water
 $2\frac{1}{2}$ oz. powdered alum
 $1\frac{1}{2}$ ozs. glycerin
1 dram oil of wintergreen

Mix a pint of cold water with a half pint of sifted flour and stir thoroughly. Then stir in a quart of boiling water and boil until it thickens, stirring constantly. Let cool. Just before mixture gets cold, stir in powdered alum. Next stir in glycerin, a little at a time. Finally, mix through it the oil of wintergreen. Put paste in short bottles with straight sides and wide mouths. Keep well capped when not in use.

CORNSTARCH PAINT

3 tablespoons cornstarch
1 pint water
Coloring

Mix cornstarch with part of water. Boil remainder of water, add starch mixture stirring until cool, add colored paint or other coloring. Use Tintex, vegetable coloring, or poster paint for coloring. Store in small bottles.

Arts and Crafts (Continued)

FINGERPAINT

1 quart water
3 tablespoons starch
1 tablespoon flour
Few drops wintergreen
Calcimine powder for coloring

Add a small amount of water to the starch and flour to make a paste. Boil the rest of the water and add the paste. Cook until thick, adding a few drop of wintergreen to keep paint from forming scum. Stir in to keep smooth. Add color to suit. Store in jars with tops.

MODELING CLAY

1 cup flour
 $\frac{1}{2}$ cup salt
1 teaspoon powdered alum
Water or glycerin for mixing

Mix thoroughly, then mix with water or glycerin to consistency desired. Color with food coloring.

PAPER PULP CLAY

Shredded newspapers
Boiling water
2 cups flour
 $\frac{1}{2}$ cup salt

Tear newspapers into small pieces and cover with boiling water. Allow to soak for 24 hours. Stir or beat into a pulp. Drain off water and strain pulp through cheesecloth. Add two cups flour and $\frac{1}{2}$ cup of salt to each three cups of pulp. Knead like bread dough until the mixture reaches the consistency of putty. Cover with damp cloth. This clay will be an excellent substitute for modeling clay.

CHRISTMAS DECORATIONS

1 cup salt
 $\frac{1}{2}$ cup cornstarch
 $\frac{1}{2}$ cup boiling water

Mix dry ingredients thoroughly. Pour boiling water on mixture while stirring vigorously. Keep over fire until mixture forms a dough. Then knead until the mixture reaches the consistency of bread dough. Roll out thin on wax paper. Cut in desired shapes and cover with a moist cloth. (Use Christmas Design cookie cutters.) Punch small holes with a nail for attaching strings. Drying takes about 12 hours. If turned two or three times while drying edges will not curl. When dry, paint on designs. Or, cover with thin film of paste and sprinkle on some glitter. Tie ribbon strings through holes. Encourage children to pack boxes of designs to send to a sick classmate.

II. HOW TO PLAN AND CONDUCT A DEMONSTRATION

A demonstration can be a very effective learning technique for pupils in special education classes because it deals essentially with realities rather than abstractions. A few points to be remembered by the teacher using this device are as follows:

A. When demonstration is to prove a point or explain a process:

1. Prepare the class in advance for the demonstration
2. Be sure all required materials are available and on hand
3. Make sure that your points of departure for the demonstration are within the experience of the pupils
4. Rehearse the demonstration in advance, making sure you are ready to capitalize upon all useable features
5. Whenever possible, allow pupils to see and/or handle materials used
6. Whenever possible, use pupils to assist in carrying out the demonstration
7. Explain all steps in a simple manner, one-by-one
8. Capitalize as fully as possible upon all learnings by follow-up planned together with the class.

B. When the demonstration is to show the pupils how to do a process,

1. Present the process as a whole
2. Break it down into a step-by-step process, showing each step in sequence slowly
3. All pupils do the first step together; then the second all together, then the next, etc.
4. Have individual pupils demonstrate the process
5. Have pupils, who seem not so sure, demonstrate.

III. HOW TO PLAN AND CONDUCT A TOUR OR FIELD TRIP

Tours and field trips are valuable educationally because they provide the opportunity for first-hand observation or experience, a feature essential to the learning process of the student in the Special Education class. Procedures can best be explained under the two categories given below:

A. Local (not requiring transportation)

The amount of preparation required here is relatively small since the tour is carried out on the school property or within easy walking distance. Factors to be considered:

1. Educational worthiness of the proposed tour
2. Advance clearance with principal or other people involved
3. Insuring against unnecessary interruption of general school routine
4. Careful preparation of the class relative to things to look for and proper behavior
5. Securing written permission of parent or guardian if the tour takes the child off school property
6. Provision for lunch if tour is away from school during lunch period
7. Use of all reasonable diligence to prevent accidents or other mishaps, especially when away from the school property (As a teacher, you are responsible to this point.)
8. Follow-up immediately and capitalization of the experiences gained

B. Distant (requiring transportation)

Although many of the factors to be considered here are the same as those for local tours, there are additional ones of real importance.

Transportation arrangements must be made by either bus or private car. The former is preferable from control and safety standpoints, but does involve some expense. After approval of the trip by the principal, a form request for approval must be forwarded via the school office to the County Supervisor of Transportation at least one week in advance of the scheduled trip. Travel expenses must be arranged in advance, either through assessment of participating students or in some local schools from a fund for the purpose available. Exact rates can be obtained from the school office.

Arrangements must also be made to have a local bus and driver available. It should be borne in mind that many trips of this type must be taken between the hours of 9:00 a.m. and 2:00 or 3:00 p.m. since buses and drivers are usually required for regular runs before and after these times.

Field Trip (cont'd.)

Arrangements for private transportation by cars of parents or friends will sometimes save expense, but increase the risk of accident, complicate behavior problems, and frequently involve confusion. This would usually be a second choice and should not be used at all without the specific approval of the principal.

Discretion should be used by the teacher in collecting money from students for distant trips. Ideally, the field trip should be shared by all members of the class, but, in some situations, certain students may be unable to contribute their share. It is again suggested that the principal be consulted before applying any pressure upon these individual students. It might be better in the long run to abandon the project altogether.

Written permission of the parent or guardian is particularly important for trips of this type. These permit forms are available in some schools in print, while in others, a note from the parent is used. In any case, the parent or guardian should understand clearly the nature of the trip, the time covered, the expense involved, and the person(s) in charge. A teacher is responsible to the point of using all reasonable care to avoid negligence in the care of children at all times and especially in trips away from the school.

Finally, the teacher should be sure that the place to be visited is available or open to such visitation and that the appropriate person or persons in charge have been made fully aware of the details and have agreed to cooperate in the plan.

A field trip can be a profitable venture, educationally, if the following points are observed:

1. The students should be aware of the real purpose for taking the trip.
2. The students should have definite goals in mind that can be achieved on the trip.
3. The students should capitalize on incidental learning. There may be an unexpected opportunity for learning which could not be anticipated before the trip.

Recording and evaluating the trip are necessary in follow-up activities. These may follow several lines:

1. Pictures may be drawn while on the trip or after the trip to illustrate something which helped achieve the goals set by the class.
2. Chart stories may simply record the trip or tell of certain aspects of learning accomplished on the trip.
3. Booklets may be made of the chart stories and may have illustrations.
4. A class diary may record all field trips taken during the year or may relate to a certain area of study.
5. Prepare a news sheet or story for the school newspaper to share class experiences with the rest of the school.

IV. HOW TO MAKE EXPERIENCE CHARTS

I. Value of First Hand Experiences

- A. "The abilities and skills which count most in determining reading readiness are acquired in various degrees by children in the home, at play, through visits and in other situations. For children who have not reached a desirable state of readiness it is necessary to provide in the school a RICH program of EXPERIENCES which will enable them to acquire these abilities and interests. For some children their program may need to be continued for a considerable time."

From: Manual for Pre-Reading and Reading Readiness by Gates.

- B. "The foundation of true education is to be found in direct experiencing. This type of education precedes history and has come down through the ages as the very bedrock of all knowledge. Time was when direct experience was the chief, if not the sole method, of learning."

From: Audio-Visual Materials and Techniques by Kinder.

- C. "It is the rich, full-bodied experience that is the bedrock of all education. It is the purposeful experience as it is seen, handled, tasted, felt, touched, smelled, etc. It is the unabridged version of life itself - tangible experience which we commonly refer to as something you can sink your teeth into. It is learning by direct participation."

From: Audio-Visual Methods in Teaching by Dale

II. Types of First Hand Experiences

- A. Experimenting - Sprouting seeds
- B. Observing - Watching leaves change colors
- C. Building - Constructing a puppet stage
- D. Working - Mixing paints
- E. Playing - Dramatizing stories
- F. Expressing - Painting a picture

III. Opportunities for Experience Reading

- A. Planning Charts
 - 1. To go on a trip
 - 2. To give an exhibit
- B. Recording charts
 - 1. To record an observation
 - 2. To keep a diary
- C. Listing charts (one step outlining)
 - 1. To list questions
 - 2. To list committees
- D. Summarizing charts (tending to generalize and show relationships)
 - 1. To summarize a discussion
 - 2. To summarize information

E. Classification charts (tending to show relationship)

1. To show kinds of jobs available
2. To show methods of transportation

F. Dictionary charts

1. To record name words and meanings
2. To develop concepts of singular and plural

G. Direction charts

1. To tell how to mix paint
2. To tell how to go to the cafeteria

H. Story charts

1. To record a story that actually happened
2. To record an experience

I. Letters and Invitations

1. To ask for information
2. To invite others to a program

IV. Standards for Experience charts

A. Attractiveness

1. Make short sentences - well spaced
2. Use bold legible manuscript
3. Use illustrations (preferably made by children) appropriate to content of story and group of children using the story.

B. Form

1. Space letters and words uniformly
2. Use a title and correct punctuation
3. Space between title and first line
4. Divide sentences between phrases or thought units
5. Indent second part of divided sentence
6. Begin with short sentences and short stories
7. Use natural repetition of words.

C. Interest Value

1. Base chart on first hand experiences of children
2. Use original comments of children
3. Use questions and exclamations for variety and interest
4. Use words showing color, sound, movement, surprise, etc.

D. Literary Quality

1. Express ideas clearly and concisely
2. Make sure title contributes to idea being developed
3. Have sequence of events expressed in the story
4. Have good beginning and ending sentences.

E. Readability

1. Use vocabulary and sentence structure on instructional reading level of group
2. Develop concepts of the same level
3. Make sure content of story reflects experience of group
4. Use repetition to clarify meaning
5. Express ideas as completely and in as much detail as is possible for the group (charts indicate clearly the type of experience and quality of discussion preceding its making.)

F. Content

1. Develop material from real experiences
2. Change content as pupils grow in ability (more story element and less repetition)
3. Make sure the teacher is aware of the vocabulary to be developed

V. Values of Experience Charts

- A. Developed by children hence contain their meaningful oral vocabulary
- B. Makes reading process easier
 1. Gives child receptive attitude toward materials
 - a. Contains such interest factors as child's own name, name of pets, etc.
 - b. Tell about an experience the child himself has had
 - c. Material is "fresh" and up to date
 2. Gives child a feeling of security and success
 3. Keeps pace with child's level of ability
 4. Develops rational thinking and organization
 5. Develops mechanics of reading (left to right, eye sweep, position of return sweep, thought units, etc.)
- C. Makes reading functional from the beginning

VI. Building Experience Charts

- A. Step one--Children must have a first hand experience
- B. Step two--Discussion periods on experience
 1. Develops ideas and clarify concepts in relation to the experience
 2. Spend much time on this, having children express their ideas, analyze concepts and oral vocabulary
 3. Have all children contribute
- C. Step three--analyze group information
 1. Group goes back to experience for ideas
 2. The richer the experience the more ideas expressed
- D. Step four
 1. Draw from the group an oral expression of the common ideas
 2. Write sentences on the board as the group agrees they are the ideas they wish to use (Vocabulary guided)
 3. Help children see relationship of sentence to unity of story
- E. Step five--Have children read the chart
 1. Children read entire chart together
 2. Child who gave sentence reads his own sentence

VII. Using the Experience Chart

- A. Make two copies of the story - one on tagboard and one on ruled chart news
 1. Hang one on ruled news on holder on board
 2. Use one on tagboard for cutting into sentences; phrases; words
- B. Work with group to rebuild story in chart rack
 1. Using sentences
 2. Using phrases or thought units
 3. Using words

- C. Focus attention on word mastery (Devices for sentences, phrases, and word drills and games can be found in any good Primer or First Reader Manual.) Put aside cut chart and work with complete story.
- D. Make two ditto copies of each story for each child
 - 1. Use one copy for making a booklet or "Reader"
 - 2. Use one copy to cut and rebuild story at desk
- E. Have each child keep a "Word Box" containing words being developed as basic vocabulary.
- F. Remember the purpose of the experience record is to see that connections are effected between ideas and symbols. Do this by:
 - 1. Guiding the reading from the whole story to the sentence, then the phrase, then the word
 - 2. Provide enough exposure of words and phrases to assure learning
 - 3. Providing various situations in which the same vocabulary is used
 - 4. Keeping accurate records of the vocabulary used
 - 5. Checking individually the child's mastery of words
 - 6. Working toward a basic vocabulary which will aid in the transition from charts to readers

VIII. Implications of the Experience Record in the Boarder Reading Program

- A. Anything in which children are interested may be basis for a chart
 - 1. Dramatic Play
 - 2. Unit development in Social Studies
 - a. Planning
 - b. Organizing
 - c. Recalling
 - d. Evaluating progress
 - e. Recording outcomes
 - f. Summarizing
- B. Values of charts in the broader reading program
 - 1. Develop a functional vocabulary
 - 2. Anticipate word difficulties and introduces them in a meaningful vocabulary
 - 3. Fixes words presenting special difficulties by repeating them in many different and interesting class stories
 - 4. Repeats words and ideas important to areas studied
 - 5. Encourages much incidental learning
 - 6. Increases language ability through discussion and summarization
 - 7. Reviews and tests vocabulary
 - 8. Furnishes material for faster moving children
- C. Suggested topics for charts
 - 1. "What We Want to Know"
 - 2. "What We Found Out", etc., etc.

V. HOW TO PLAN AND PRODUCE A DRAMATIZATION

Students in the special education classes usually enjoy and profit from the dramatization of incidents of living. By dramatization here, we are not referring to full-scale stage productions, but instead to brief, on the spot, developments which grow out of the content of the moment. These dramatizations may, of course, be planned by the teacher in advance, or by the teacher and the class working together.

Usually, the action falls into one of these different forms which are similar in preparation but different in purpose to a degree. These are: the socio-drama which presents a sociological situation; the Psycho-drama where the emphasis is upon the psychological aspects of a situation; and the pantomime which may be used in either instance but which involves little or no speaking.

Few, if any, props are required nor should there be undue emphasis on memorization of lines and the finer points of drama. Ideas should, of course, be developed with the class in advance, but there should be considerable freedom of individual expression. Ordinarily, the plot should revolve around a single incident and its purpose for the teacher would be to make the aspects of that incident real and down-to-earth in the minds of the class. There should be a continuing attempt to secure participation by all students even in a very small way, but care should be exercised to avoid placing under pressure a child who is not psychologically ready to take part.

These dramatizations are intended primarily to drive home a point to the class as has been mentioned before and are not intended as pure entertainment for an audience. Occasionally, however, a class may enjoy the technique to the point where they would like to present something from a stage. In some instances this may be quite satisfactory or desirable. Again, however, the teacher should, estimate the situation carefully and diplomatically in order to avoid placing these children in an unfortunate situation which they cannot foresee.

A typical example of this type of dramatization to be used here might be a situation involving an imaginary interview between an employer and a job-seeker. Another might be acting out, through pantomime, the right and wrong ways of observing a regulation. The purpose for the pupil audience is not entertainment, but to provide an opportunity for demonstration, criticism, and consequent learning.

VI. HOW TO PLAY RECOGNITION GAMES

A. Twenty Questions

This is a game which can be used effectively in learning specific identifications or relationships and as a method of reviewing knowledge of a given area of study. It is a pleasant method of drilling in order to make secure certain information.

Preparation

- A. Prepare a group of subject cards, each containing:
 1. Name of subject and a specific fact for identification clue
 2. As much information about the subject as possible
- B. Have 20 cards, numbered 1-20, large enough to be seen easily by all participants.
- C. Choose a pupil to count questions used, and use numbered cards to show the group how many remain. (#20 will be on top of the pile.)

Playing the Game

- A. Have pupil read from a "subject" card the identification clue, i.e. "This subject is a location in the school plant" (library).
- B. Allow the pupils to ask a given number of questions attempting to identify the subject.
- C. Give winner points; the high scorer wins; winner may read next card.

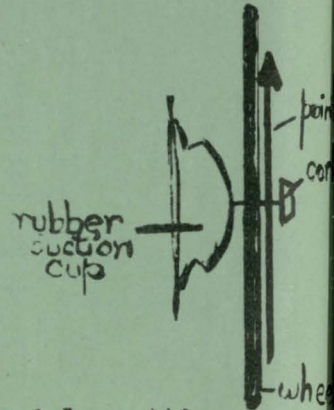
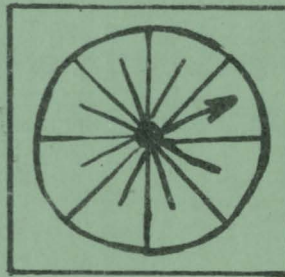
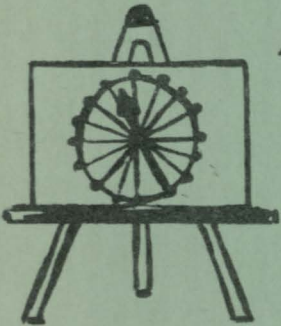
For Variety

Scoring may be based on the speed at identifying the subject; if the subject is identified in 4 questions, allow a higher number of points than if 12 questions were used. This probably would be one way to retain interest as the children gain facility in identifying the subjects.

B. Wheel of Fortune

Make a wheel by any one of the following methods:

1. Cutting from cardboard and attaching to easel, bulletin board, or blackboard .
2. Drawing on blackboard, coloring for eye appeal
3. Tacking to bulletin board by means of large-headed pins (with or without ribbon or tape).
4. Attaching on board to play on table



Make spinning pointer by using any rigid, lightweight material, cutting for size (radius of circle)

Fix spinner by any one of the following methods:

1. Attaching to blackboard or bulletin board by suction cup.
2. Attaching to cardboard (on easel) by punching through board and securing on back of circle.
3. Attaching to bulletin board by use of long heavy pin of #16 gauge brad.

Insure that "hand" or "arrow" spins freely by interposing it between:

1. Cardboard discs
2. Small washers
3. Corks

Mark off circle in desired number of sections. On outer circumference of circle, place pictures, names, signs, numbers, or whatever is to be identified.

Test "spinner". Allow for rapid, free spin. When spinner stops, try to identify picture, name, or item indicated by the pointer.

C. Question Games

Question and answer games are useful with special class children in that they present an interesting way to drill on information which has already been acquired by the class and listed on experience charts. They can be utilized in learning specific information which the pupil must know.

Playing the Game

One pupil may ask for a specific location, beginning his question with the phrase, "Can you direct me....?"

Another pupil answers with specific directions.

The same procedure may be used with other purposes governing the wording of the question, i.e., in situations where rules should be learned, or routines should be established for certain drill situations (fire, air raid, etc.).

Variety:

With an incorrect response the pupil may forfeit his turn. Correct response may allow him to answer another question, ask another pupil a question, or receive points for score.

D. Matching Games

The teacher's purpose influences the approach when the class plays matching games. Essentially, matching games are recognition tools and may be used effectively in many situations.

Specifically, the matching technique involves presenting one item to be identified from a list of comparable items or descriptive elements associated with the stated item.

Sample situations (or items) include the following:

- a. Name with picture
- b. Name with name
- c. Picture with picture
- d. Person with place
- e. Place with function
- f. Function with person
- g. Picture with idea
- h. Time with subject
- i. Person with verbal description
- j. Time with activity i.e. lunch, play, rest, etc.

Matching techniques are also effective in teaching the concepts of opposites.

E. Whispering Down the Lane

This game, sometimes called "Gossip", is a simple but convincing demonstration of how messages are altered and oftentimes completely distorted as they pass from person to person.

The group leader arranges the class in a wide circle. She whispers a simple statement of fact to her neighbor. The neighbor, in turn, transmits the message as she heard it to her neighbor. The message continues the whispered 'rounds' of the entire circle. The last child to hear the message is asked to repeat it aloud for the entire group. The group leader repeats the original statement.

"Brer Rabbit fell into the trap" can be distorted by the whispering process to "Mrs. Babbitt dwells in a two-room flat."

Children should be cautioned to repeat only what they hear. Otherwise the embellishments completely defeat the objectives of the game.

VII. HOW TO USE A FILM EFFECTIVELY

The procedural description here can actually be applied to the full range of audio-visual aids to teaching. The teacher of the special education class will find that proper usage of the full variety of these devices available will be most helpful. A few simple suggestions are presented herewith for guidance:

1. Sources: The central office at Rockville has a large library of all types of films, filmstrips, slides, and recordings. Many of these appropriate to the work in these classes are named in this book. For further reference, consult the Audio-Visual Catalog, available to each teacher in most schools.

In addition to the county materials, many companies and service groups provide free or inexpensive audio-visual materials designed for use in the schools. Care should be used in their selection, however, to avoid unnecessary indoctrination of students with too much commercial propaganda.

2. Procedures: The teacher should first check the local school supply of audio-visual equipment, then plan for its use, and the techniques for the proper operation of each item to be used.

County audio-visual materials are obtainable upon request filed on the appropriate form obtainable in the school office. These requests should be placed at least a week in advance and should specify certain alternatives, where possible, since the materials desired may not be immediately available. In addition, the teacher should plan in a sufficiently flexible way to allow for effective use of the material at any of several dates on which it might arrive. Since many other schools also use the library, it is very difficult to guarantee delivery on a specific day.

3. Pre-View: Although verbal descriptions are available for all audio-visual materials, it is believed highly desirable to pre-view all such items prior to their use with the class. The material may not prove to be as useful in the situation as first believed and, in any case, the teacher will be much better prepared to capitalize upon its values after having first familiarized himself with its content.
4. Preparation of Class: After the teacher has taken the steps discussed above and has all equipment at hand together with a means of operation, he should plan with the class for an effective showing. This would include appropriate background and things to be especially watched for.
5. Follow-up: The full value of audio-visual material may be lost without well-planned follow-up programs. This, of course, will vary with the situation, but should never be overlooked. Many times the class will want to see the film over several times as they discuss it. In this way they may find the answers to a fewer number of questions at a time.

VIII. HOW TO CONDUCT A GROUP DISCUSSION

How to arrange the room in which the discussion is to be held, by:

Making sure the area is comfortable, well ventilated, well lighted, and attractive

Arranging the seating to give close grouping of pupils

Providing space for exhibiting materials

Providing a blackboard or chart easel for use during the discussion

How to establish the purpose of the discussion by:

Establishing a feeling of sociability among the members making sure the purpose for the discussion is within the interest and maturity level of the group

Preparing an outline of possible points to be discussed

Presenting the topic in terms of the immediate and ultimate goals

How to keep the discussion moving, by:

Starting the discussion with a pertinent question

Keeping the discussion moving through questions and comments

Guiding the discussion toward sharing among group members

Encouraging the members to talk to each other rather than to a leader

Keeping the discussion to the point being considered by summarizing at intervals

Seeing that each member has an opportunity to express his ideas and that one or two members do not monopolize the time

Developing a feeling of responsibility among the members for making worthwhile contributions

Respecting the contributions of other members of the group

Developing a feeling of responsibility of the members for the effective conduct of the group - observing rules of courtesy

Developing the ability to accept group decisions

How to show consideration for the listeners in a discussion group by making one's self understood, through:

Using the voice so that the audience can hear what is being said

Enunciating to bring out clearly beginnings and endings of words

Pronouncing words correctly so that listeners will understand what is being said

Rising to speak so that the group will know who is talking (or indicating this in some way established by the group according to their maturity)

Taking turns in speaking so that all will have a chance and so there will be no interrupting

Stating ideas fully so that the listeners can better understand the meaning

How to get the attention of the listeners in a discussion group, by:

Displaying enthusiasm in speaking so that others will feel interested and think the idea worth listening to

Making careful selection of words so that the meaning will be clear

Making a careful organization of ideas so that the listeners can follow the speaker's thoughts

Using interesting illustrations to make the points clear

How to convince the listeners in a discussion group, by:

Appealing to the group by considering their interests and their maturity levels

Stating the ideas clearly so that others can follow the points made by the speaker

Developing the ideas in proper sequence

Using appropriate and interesting illustrations

Stating the point in summary form at the close, either in a group or individual form.

How to summarize a discussion, by:

Re-stating the purpose or purposes set up

Selecting the most important contributions to the discussion and naming them briefly in some appropriate sequence

Drawing a conclusion as to the present status of the problems

Writing group charts to summarize what was decided

How to evaluate the effectiveness of the discussion:

Did we solve the problem or come to an agreement about the topic?

Did we keep to the point in the discussion?

Did each of us contribute an idea?

Did we respect the opinion of the members of the group?

Did we speak to one another rather than to the teacher or the chairman?

Were we prepared to discuss the subject? Did we express our ideas clearly?

Were we courteous at all times?

Did we learn something from this discussion?

TECHNIQUES FOR TEACHING THE BRAIN-INJURED CHILD

I. Teaching Arithmetic Fundamentals to the Brain-Injured Child

In developing arithmetic fundamentals with brain-injured children, it is important to use concrete materials to show meaning whenever possible. Many techniques used with all children are equally effective with the brain-injured child. In addition to these, it is necessary to devise ways of meeting his special limitations. Some techniques and devices which have been used successfully are suggested as follows:

A. Recognition of likes and differences

1. Cards with dots using first 1 to 3 or 4. The cards must be sorted and matched in piles. All 1's can be green, 2's red, etc. As ability to do this is increased, cards without colored dots may be substituted. Lastly, cards with dots non-colored and number symbol. Card examples:

1st



2nd



3rd

200

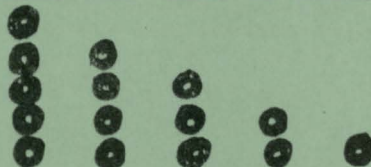
colored plain symbol and dots
Separate cut-out dots can be matched to cards after sorting.

2. Other sorting and matching devices:
Beads and pegs into separate boxes.
Buttons, bottle tops, blocks, etc. used in same manner.
Picture seals on cards.

B. Counting for meaning

Since the hyperactive or disinhibited child tends to rush through when counting thus often counting incorrectly, methods and devices must be used to slow him down and cause him to count correctly.

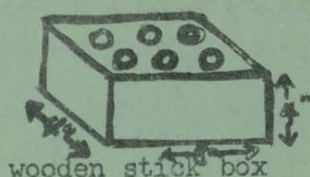
1. Screwboard - this is a board with rows of holes drilled partly through. The child is given a screw driver and screws. He counts as he screws the screws into the holes. The holes may be encircled by color to enable the child to better see the hole.



screw board

2. Wooden stick box - a box approximately 4" x 8" x 4" with 6 to 10 holes 1" in diameter in the top. Pegs 5" high and 3/4" in diameter fit into the holes. The child counts orally while placing the

pegs in the holes.

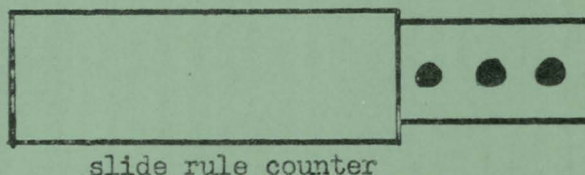


3. Colored dot cards for counting:



Counting and touching the dot is emphasized. This integrates visual, verbal, and motor functions.

4. Slide rule counter: "Many distractible children count erratically beginning at any point in a row, as for example, 2,1,3,4 or lose place omitting objects and counting twice. To aid a child with these disturbances one can give him a device in which he exposes dots to be counted one at a time through a slot or on a movable slide....."¹



Other devices may be made by the teacher, based on these to suit the individual needs of the handicapped child.

C. Grouping



Grouping is considered counting with a slightly greater degree of advancement. The colored dot cards, already mentioned, may be used to help the brain-injured child achieve this skill.

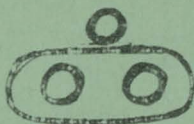
1. With dot card and beads, blocks or spools, he covers a dot as he counts it. When this is accomplished he takes a blank card and attempts to reproduce the group of dots by placing beads, blocks or spools on the blank card.
2. Cardboard cutouts - rectangular cards with 2, 3, or 4 holes cut out can be used in a stencil fashion if the activity involves drawing a certain number of balls. Several cards are given to the child and he must choose which card is correct.





cut out card (stencils)

¹Strauss and Lehtinen, Psychopathology and Education of the Brain-Injured Child, Grune and Stratton, N. Y., 1947, p. 155.

3. String or wire with beads: The child is given a wire with three beads on it. He records on paper the various ways he is able to separate the beads such as --0---0-0- or --0-0-----0-. This can be carried up to 10.
4. The child should construct the configurations with concrete materials such as blocks, beads, cardboard dots, etc. To determine his knowledge of group relationships he should be asked to change the configuration as from  to . For more advanced or abstract development he can be asked to make the changes on paper as in the following suggestion.
5. In indicating relationships of numbers to each other dot cards are once more valuable. He may be asked to circle two dots on a three dot card. With this method he sees the relationship of one and two to three.



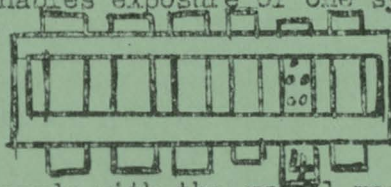
After he is able to handle this with individual cards, a dittoed paper may be given him with several groups to circle.

6. To aid the child in seeing the configuration as a whole, lines may be drawn to connect the dots. He should be encouraged to give names to the figures if he is so inclined. For example:  may be recognized as a tent or  as a box. This will help him recognize them upon sight and reproduce them from memory.

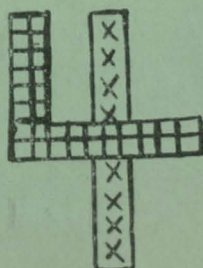
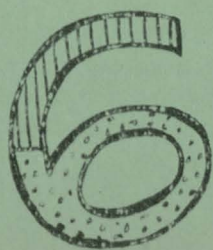
D. Recognition of number symbols.

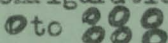

"Children who have difficulty in recalling the form of the symbol as a result of weakness in form perception will be aided by adding the kinesthetic reinforcement of tracing the symbol with the fingers." ¹

1. Sand paper number cards. The number symbol is cut from fine sandpaper and pasted on cardboard cards. The child is better able to "feel" the number form, tracing with his finger.
2. Reference device for number symbols.
The number symbols and numbers as dots are enclosed in a cardboard device which enables exposure of one symbol and dot group at a time.



3. Number symbol cards with the symbol made in various colors or designs may be made for the child whose deficiency in number symbol recognition is extremely severe (agnosia).

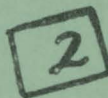


4. When groups of dots are recognized by the configurations, a child may be given several cards with the configurations  to  on them. Another set of cards with the number symbol is placed before him and his task is to place the dot cards below the proper symbol. Only two or three different symbols should be used at first, introducing the others only when the child is sure of the previous ones. The addition of color may be necessary if the child shows difficulty.

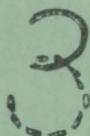
5. Lotto number game

This is played like regular lotto. The large card given to each player should have about six numbers in a large size and in different colors at first. Corresponding separate cards with numbers are held up and the question is asked "Who has this number?" The first to fill his card is the winner.

3	4	1
2	5	3







6. Some children have difficulty writing the whole number or a portion of it. The following numbers are made in two colors; the solid line in one, the dotted line in another. The child must complete the number. The entire number may be dotted to aid the child who has difficulty with the whole number.



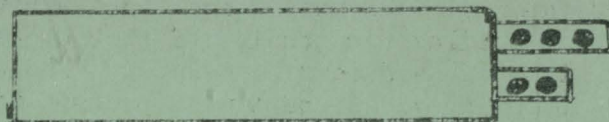
E. Combining numbers (addition):

Combining numbers may be started before he recognizes the number symbols by using the following technique.

1. A card such as  could be given the child and asked to copy and record the answer as . This helps him develop the concept that the meaning of groups change.

2. For the child who has difficulty in shifting in counting, for instance will count "1, 2, 3" and on the second row will begin again with 1 instead of 4, the dot group could be encircled .
3. The abacus
When first using the abacus the child's work consists of learning to locate the rows from 1 to 10. He must know which is the 5 row, 9 row, etc. The addition of color to the different rows of beads may aid the child in learning the approximate position in the series 1 to 10. After position of rows is established, simple addition problems may be introduced. This process is done by combining groups such as the 1 row and 3 row counting the result. Use only the sums below 10. Color cues can be taken away after he feels secure with the process.

4. The slide rule counter.

A simpler version of this device was used for teaching counting. With the addition of another row of dots, this device can be used for both addition and subtraction.



slide rule counter for addition and subtraction

The child may record on paper with dots or with the number symbol if that has been established. (This device will be referred to again for subtraction.)

5. To encourage partial counting separate boxes marked with a number and containing that many counters is a helpful device. When adding 5 - 7, the "5" box and the "7" box are used. He should be encouraged to begin counting with the 5 rather than starting with 1



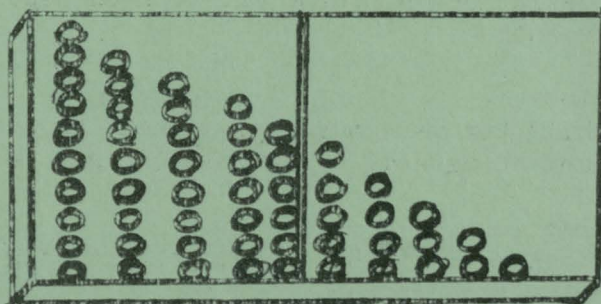
boxes with corresponding counters inside

F. Subtraction - Take-away

Many of the devices already mentioned for use in addition can also be used for subtraction. The following are especially good:

1. The slide rule counter
2. The abacus
3. Concrete objects
4. Take-away box

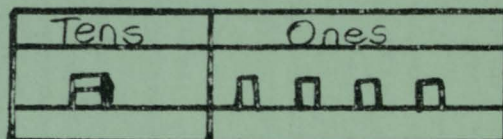
This is a wooden box which contains beads or marbles fixed to the bottom in an arrangement such as the simple abacus. A movable metal strip demonstrates take-away when moved from right to left. At the same time the device shows that the number of beads taken away can be added again to prove the subtraction.



take-away box

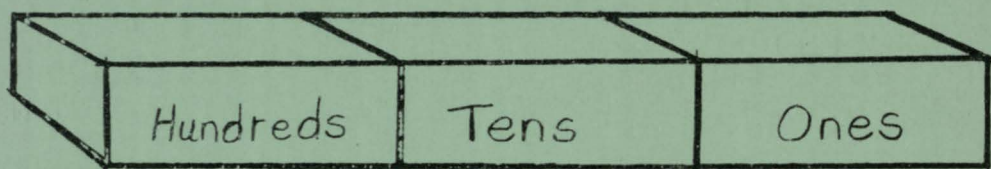
G. Place value

In teaching the numbers from 10 to 20 the same methods can be used as those used in teaching 1 to 9. Strauss encourages using the "ones and tens" method for greater understanding. The abacus and "bundles" of ones and tens are useful devices. The bundles can consist of toothpicks, straws, ice cream, sticks, pegs, or slips of cardboard or oak tag. These are held together with rubberbands most efficiently. A chart with pockets for the tens and ones is also a good device. Each child can make his own or a large one for demonstration purposes could be made.



pocket chart

A place values box could be made to serve the same purpose as the pocket chart. Cigar boxes attached side by side, painted, and labeled hundreds, tens, ones are very good for this device.

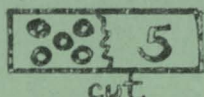
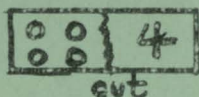


place values box

H. Number games

1. **Tenpins**
Each pin has a number, two balls are rolled. The child must add the number on his fallen pins to find his score. This may be played using only five pins also.
2. **Dominoes**
The standard small sets can be used, however the large block size sets are easier for the young child to handle.
3. **Lotto**
Many variations of lotto can be used depending upon what the teacher is presenting.
4. **Ring Toss**
The child throws rings over a peg. He must count the rings to see how many he missed, or how many he got on the peg.
5. **Bean Bag Toss**
This is played in the same manner as Ring Toss using a receptacle to catch the bags instead of a peg.

6. Ball Game
Each child may have several colored balls. He rolls them into a circle drawn on the floor. He must count to see how many are in the circle and how many are out.
7. Puzzle Matching Games
"Cut cardboard strips 4" long by $1\frac{1}{2}$ " wide. The amount of strips may vary depending on the number to be emphasized. In the left hand corner of each strip draw a semi-concrete number grouping. In the right corner print the corresponding number symbol. Cut each puzzle into two pieces."



8. Telephone Play
This is useful in helping the child recognize the number symbols. It provides fun while the child is learning.
9. Number Puzzles
Cards with the number symbol cut into two or more pieces for the child to assemble.
10. The Winston Manipulative Arithmetic Materials are useful because of their concreteness.
11. Many games can be devised using the Catherine Stern Structural Arithmetic Materials.
12. Flannel board and felt cut-out provide numerous ways of giving children number experiences.
13. "Go Fish" card game - 25¢ is available for number work, color recognition, and words. If the teacher puts a paper clip on each fish (card) and provides small magnets on strings for the children, the incentive to play the game is much greater.
14. Counting Board No. 1
See Diagram p. 56, California Curriculum
Counting Board No. 2, p. 57
15. N 120 Number Sorter \$1.95
N 260 Combinations .95 -- a card game
Creative Playthings, Inc. (see bibliography)
16. Each child is given a 4" by 5" card with a number printed on it (1 to 10). The child who has card number 1 places it on the chalkledge, then the numbers 2, 3, 4, etc., until all have placed their cards in correct order. A similar game can be played using the number words, to make short sentences, etc.
17. Say it - addition \$1.95
Say it - subtraction \$1.95
Quizme: Addition and Subtraction \$2.00
Young Playways, Inc. (see bibliography)
This game may be played either as bingo or lotto. It affords practice in number combinations.

18. I Win Cards 75¢ Young Playways, Inc. (see bibliography)
This consists of a deck of 50 problem cards and 25 answer cards.
The players must match problem cards with correct answer cards.
Choice of 18 decks, suitable for grades 1 to 6.
19. Self-teaching Flash Cards Young Playways, Inc. (see bibliography)
Addition \$1.10
Subtraction \$1.10
20. Adds \$1.50 Young Playways, Inc. (see bibliography)
This is a Bingo or Lotto type game serving as an incentive for
study. 2nd and 3rd grade levels.
21. Sum Fun \$1.25 Young Playways, Inc., (see bibliography)
This game consists of ten multi-colored cubes and a shaker; nine cubes
have a different number on each side; the tenth cube indicates a
premium or penalty. The play consists of casting the cubes and
arranging them in runs and sets with scoring according to values given
in rules. Suitable for grades 4 up.
22. Punch 39¢ Young Playways, Inc. (see bibliography)
Punch the punchboard and out comes an arithmetic problem. One hundred
problems to punch in basic arithmetic. Each problem can be reinserted
in hole to be used again. Problems and answers are listed on the
reverse side.

II Teaching Language Arts Skills to the Brain-Injured Child

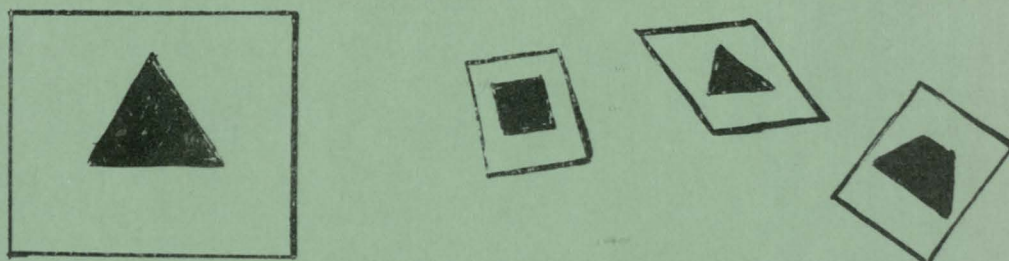
It should not be assumed that the brain-injured child has had the same opportunities outside of school which the normal child has had. Because of the brain-injured child's multiple handicaps in the learning area as well as his physical handicaps he must be given many activities which emphasize the perception and integration of wholes, visual discrimination of forms, organization of space, and construction with a figure against a background. Some techniques and devices which have been used successfully are suggested as follows:

A. Perception and integration of wholes

1. Have the child select a picture from a magazine, cut it out, then mount it on cardboard. After a discussion about the picture the teacher should mark it with heavy crayon, cut into pieces and give it to the child for reassembling. At first the "puzzle" should be very simple, perhaps only two or three pieces. The difficulty can be increased until commercial puzzles could be handled.

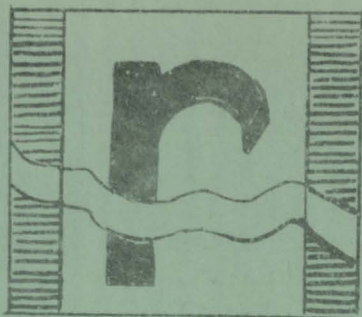
B. Visual perception

1. The use of simple geometric designs such as squares, triangles, rhomboids, etc. on matching cards is one suggestion. Separate cards with one design on each are matched to the same design on a large card. The addition of color may be necessary.



matching cards

2. Perception of letter forms may be helped with the following device. The child should have a set of alphabet cards (he may make these himself). He should be asked to sort out all the "b's" or "e's", etc. Color cues may be used to aid the child. (Later these same letters can be used for building words.)
3. Letter puzzles can be made which would require the child's familiarity with the structure of the letters.



Letter puzzle

While the teaching of visual discrimination is being taught, auditory discrimination of the different letters or words should also be taught. It should be taught that the written symbols on the page represent speech sounds.

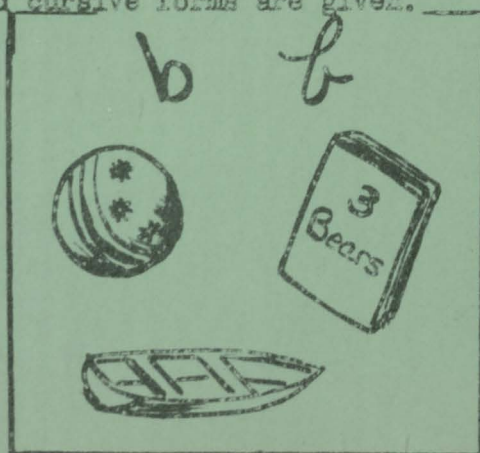
C. Auditory perception

The letter sounds can be taught to the group as a whole. In the initial stages the emphasis is entirely oral. The child is taught to discriminate the sounds and to reproduce them in isolation. He will probably be able to hear beginning sounds and final sounds before a particular sound in the middle of the word. A game which the children will enjoy for sound discrimination can be played as follows. Let us say the letter "b" is being worked on. The teacher announces she will say several words which begin alike such as "baby, ball, cat, book". Make the mistake an obvious one at first. Each letter sound introduced may be treated in the same manner. The children can play by taking over and one be teacher or leader after the game is well understood.

Introduction of pictures to represent the sound may be started after several letter sounds are familiar to the class. The same process with picture and sound may be used as with sound alone. The game mentioned above may also be used having the child hold the picture after he correctly says the word. The teacher may want to vary this game or use similar ones which she thinks will better suit her group.

As the child becomes more adept at discriminating sounds, the following seatwork activity may be used.

Several pictures cut from magazines, coloring books, or old picture books with the same beginning sound are given to the child to paste on a page. (He may want to start a notebook). The letter of the sound should be shown on the page with the pictures. Note that both manuscript and cursive forms are given.



Later the child may be able to choose the "b" pictures from several, some of which are of another sound. Still later he may be able to take a magazine and find his own pictures.

The word associated with the picture can be added when the child has shown security in his ability to discriminate the sounds and pictures. Color cues can be used for sounds if he has difficulty remembering. For example, the "b" sounds could be made with blue crayon, etc.

The reading instruction should emphasize accurate perception of words and early attempts should be made to make the relationship between visual and auditory perceptions a functioning one. The child's study of phonics is supplementary to the reading program, but closely correlated with it. It should not be used as a method of teaching reading, but as a tool for recognizing strange words.

D. Word Study

Word study is important for the brain-injured child. The following ways of building words are suggested:

1. Make words on cards or paper with a stamping set.
2. Copy them with crayons using different colors.
3. Write them on the blackboard.
4. Build them with letter cards.

It is suggested that the child have a supply of ten or twelve words which will occur in his reader before he actually uses the book. These can be used as labels, single words, and in simple sentences and phrases.

Because the brain-injured child is often very distractable he may not be able to read the words in continuity as in a sentence or story. These two devices will help focus his attention on the teaching material. The strips between the words are in many colors.

A little girl had a kitten.
It was black and white.

Dick can run.

Muff runs.

See Jane run.

See Baby go.

Words and phrase cards

The brain-injured child should be encouraged to use a marker in reading to keep his place or to use his finger as a pointer. Another device useful for the distractable child in reading is to make the letters in the words different sizes, colors, or design.

DICK cAn Run.

sEe jAnE Go.

E. Oral Reading

Brain-injured children should be able to read orally very fluently before silent reading is started. Even after silent reading has been introduced he may continue to move his lips or read aloud to himself.

Other materials and equipment helpful in teaching the brain-injured child:

moving pictures	charts
film strips	stories
opaque projector	blackboard
lantern slides	colored chalk for blackboard use
labels for objects in the room (chair, books, also reading materials)	

Suggestions for seatwork:*1

1. "Making and tracing stories on charts for moving pictures.
2. Using mimeographed pictures and words with instructions to draw a line from the picture to the correct word to develop word-recognition.
3. Using short phrases and sentences under a picture and instructing the child to circle the phrase or sentence that describes the picture.
4. Using picture cards, with sentences containing words the child will meet in his reading experiences.
5. Pasting words, phrases, and sentences written or typed by the teacher on pictures which have been drawn by the child or cut out from magazines.
6. Utilizing the sentence completion method by mimeographing known stories and omitting certain words."
7. "Executing written directions such as, "Color the apple red."
8. Free reading that will enable the child to read for comprehension.

E. Suggestions for seatwork(cont.)

9. Using reading books or workbooks with the purpose of guiding the child's reading, such as, "Tell how the story may be illustrated."
10. Using the workbooks accompanying the basal readers with the activities based on the vocabulary in that reader."

F. Spelling

The following are seven principles for teaching spelling to the brain-injured child: *2

1. "The words used in spelling should be those that are familiar and used by the child in everyday life.
2. A systematic method of learning spelling should be taught the child. Incidental methods are not effective with the mentally handicapped.
3. Spelling should not be taught by rules, since this involves the application of generalizations. Mentally handicapped children have difficulty in applying and remembering generalizations.
4. Spelling is facilitated when the child is able to pronounce the words accurately. When a child pronounces "run" as "wun" and is asked to spell it as "r-u-n", he becomes confused between what he hears and what he sees.
5. Spelling in its initial stages should be closely supervised. Repetition of wrong spelling without correction tends to fix the wrong spelling in the child's mind. It is more difficult to break a habit than to establish the correct one at the beginning.
6. The spelling, reading, and writing materials used by the child should be the same. When a spelling list is used that has no relation to the reading vocabulary or the writing period, less learning takes place in all areas.
7. Spelling should be taught after, not before, the child learns to write. Writing words, rather than oral spelling is the important aim. Furthermore, writing words, sentences, and stories is one of the most effective methods of learning to spell."

One systematic method of teaching spelling described by Fernald is as follows: *3

1. "The word to be learned should be written on the blackboard or on paper by the teacher....."
2. The teacher pronounces the word very clearly and distinctly. The children pronounce the word....."

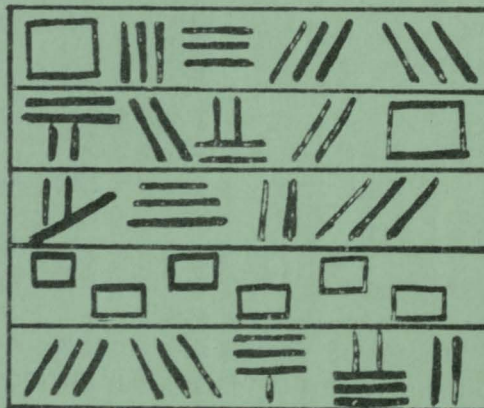
F. Spelling (cont.)

3. Time is allowed for each child to study the word.....
4. When every child is sure of the word, the word is erased or covered and the child writes it from memory.....
5. The paper should be turned over and the word written a second time
6. Some arrangement should be made so that it is natural for the child to make frequent use, in his written expression, of the word he has learned
7. Finally it is necessary that the child be allowed to get the correct form of the word at any time when he is doubtful of its spelling.....
8. If spelling matches are desired, they should be written instead of oral."

G. Writing

Because the brain-injured child has difficulty in visual perception, different techniques and methods are needed in teaching him to write.

Tracing through onion skin or tracing paper is a basic exercise for the beginner. Tracing such patterns as shown below are necessary in the beginning stages.



Various colors should be used at first to hold the child's attention.

A variation of the above method can be done with modeling clay. Strips or rolls of clay placed in a shallow pan allow the child to copy above patterns. The clay affords resistance which helps to strengthen the motor kinesthetic perception.

The teaching of cursive writing rather than manuscript has proven advantageous for the brain-injured child. Perception of a word form as a whole is aided when the letters are connected. It also makes for better spacing in writing.

The child with a physical handicap involving the arms will have much more of a writing problem. Often the type or degree of the handicap will help determine whether cursive or manuscript should be taught. For example the athetoid cerebral palsied child may find cursive easier to handle since the involuntary motions make it difficult to begin and end a letter as is necessary in manuscript. On the other hand a spastic child may find manuscript more suitable if he can make short strokes better than longer ones.

G. Writing (cont.)

Beginning writing for the physically handicapped often requires various writing aids. Restraints and splints are sometimes used. Sandbags or forearm cuffs are often needed. Holders for the writing tool (pencil, crayon, or pen) may be helpful. Some of the following suggestions can be tried.

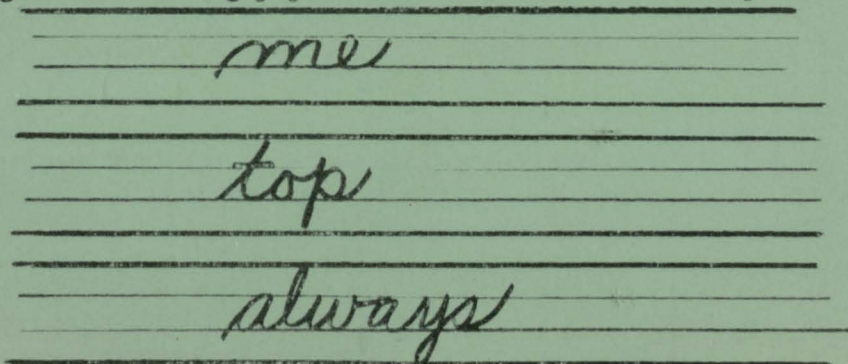
1. wrap ceramic clay around the tool and let it harden
2. insert the tool in a sponge rubber ball the size necessary for the child's hand
3. insert the tool through a spool which has had the hole enlarged to fit

When teaching the beginning writer, the letters are taught in isolation. The first letter taught is "m" because the motions involved are easiest for the brain-injured child. After the "m" the letters are taught in the following order giving the child ample time to grasp one before going on to the next.

<u>First taught</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>	<u>5th</u>
m	e	a	r	q
n	l	o	v	x
i	b	c	y	
u	h	d		
w	k	g		
t	f	z		
s	p			
	j			

Soon after several (3 or 4) letters are learned the child should begin combining letters. He should use either colored crayons or the soft-lead first grade pencils. If he has difficulty holding the pencil it can be wrapped in clay to give a larger surface to hold and thus eliminating the slippery surface of the pencil.

The beginners writing paper should look like the sample below.



G. Writing (cont.)

The use of color cues for the lines will help the child stay on the lines. Also framing the paper or writing space with heavy crayon or colored paper will help focus his attention on the work.

*1 "As the child learns to write a letter he learns its sound or phonetic equivalent rather than its alphabet name. He is taught to articulate the sound while he writes the letter, integrating though this "oral writing", so to speak, his visual, auditory and kinesthetic perceptions, eg., in writing the letter "s" the child quietly says the sound "s". The vowels "a" and "o" are taught as "ā" and "ō"; for "e," "i," and "u" the child learns first the long sound "ē," "ī," and "ō" because of the great difficulty of differentiating the short sound. We have found this practice of inestimable value in relating auditory perceptions to reading and spelling. Children who have already learned to recite glibly the alphabet names are quietly discouraged from using them by requiring a knowledge of the sounds. Children with speech defects approximate the sounds as well as they can."

The brain-injured child will show difficulty in changing from manuscript to cursive in cases where the manuscript was taught first. The sample below will help him make the change. One color should be used for the letters and a different color for the connecting lines.

cat run

The teacher should encourage the writing from memory rather than mere copying. Each child should have a set of cards with the letters on them. After he studies one card, tries to visualize it and writes it with his finger, he should turn the card over and attempt to write it from memory. If he makes a mistake he should study the card again before trying to rewrite it.

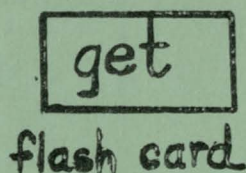
Some children will find the use of India ink and a broad pointed pen helps to focus their attention. This can be of great help for the distractible and disinhibited child.

The reading and writing should be closely correlated throughout the child's school program.

III Additional Devices and Materials for General Use.

1. "Frame It"

Several plastic pockets or envelopes are given to the child. The "pictures" or "frame" of a word has been drawn on the pocket with a black marking crayon. This type crayon can be wiped off in order to change the frame. He is also given one or two flash cards to fit into the pocket to find which fits the frame.

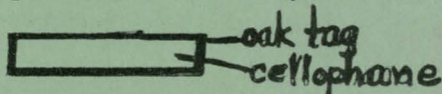


2. Picture and Word Blocks

A picture may be pasted on a block of wood and the corresponding word on another block. (Make blocks 6" x 3" x 1" so that they can be easily handled by the children.) The child must match the word to the picture.

3. Markers for Reading

A window made from cardboard or oaktag with cellophane over the window helps the child keep his place and see only one word at a time.



4. Reference Chart

Mount a paper doll and an outfit of clothes (dress, slip, socks, shoes, etc.) on chart paper or oaktag. Write name next to article. Separate cards with the same pieces of clothing are given to the child. After he matches his card to the chart, he must read what piece of clothing it is. The teacher can vary this activity to suit the child's ability.

5. Guessing Game

"I See Something" using things in the classroom, clothing, toys, objects outside, etc. can be used for variety.

6. Reading Charts

Make the first letter of every word green for "go" and the last letter of each word red for "stop". The letters between of black.

7. News Chart

A daily news chart on portion of the blackboard serves to stimulate the child during sharing time. "Billy has a new shirt" could be put on the chart. The child is encouraged to read. The teacher may want to draw simple sketches or stick figures to aid the reading.

8. Class Snapshot Chart

Individual pictures of the children are mounted on a chart with their name below. This can be done with either manuscript or cursive writing. Each child should bring a snapshot of himself from home. The children may refer to this in learning to write the names of their classmates.

9. "Where We Live" Chart

On large brown paper put up on a bulletin board, a map of the area in which the children live is drawn by the teacher. Each child finds a picture of a house to be put in the correct location. The teacher prepares cards with his address clearly written to be placed below his house. This may be used as reference in learning to recognize and write his address. Older children may use small colored paper models of buildings and study street names and numbers and position of churches, schools, etc.

10. Book Stand

This stand holds the book open for the child who does not have control or strength enough to do it himself. (Diagram p. 15)
Teaching the Cerebral Palsied Child - California State Department of Education.

11. Phonic Rummy

Set A	grades 1 and 2	\$1.50
Set B	grades 2 and 3	\$1.50
Set C	grades 2, 3, and 4	\$1.50
Young Playways, Inc. (See bibliography)		

12. Phonic Quizmo (See bibliography) \$2.00
Excellent for special classes and grades 2 - 9 Young Playways, Inc.

13. Go Fish - Consonant Sounds \$1.25
Go Fish - Consonant Blends \$1.25
Grades 2 up. Young Playways, Inc. (See biblio)

14. Dolch Games prepared by E. W. Dolch, Professor of Education, University of Illinois

Picture Word game \$1.00
Grades 1 and 2

Popper Words \$1.00
Grades 1, 2, and 3

Sentence Games \$1.00
Grades 1, 2, and 3

Look \$1.59
Grades 1, 2, and 3

Take \$1.50
3rd grade up

Young Playways, Inc. (See biblio.)

15. A B C Game .75

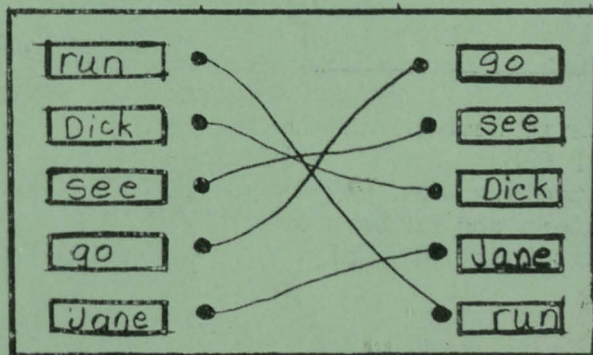
Aids in teaching letter and word recognition. There are 26 pairs of cards, each card showing three points of interest - a picture, a word, and the first letter of the word. All letters on one card are capitals, while the matching card has the small letters. Object of the game is to find mate for every card in each player's hand. Grades 1 and 2. Young Playways, Inc. (See biblio.)

16. Alphaset \$2.50

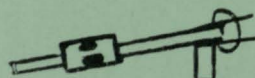
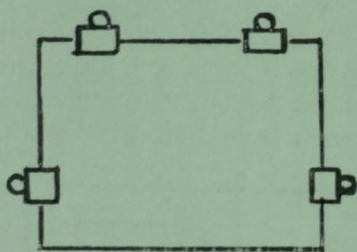
A complete organized set of well designed alphabets containing 192 velour coated pieces, capitals, lower case and numbers with a bin box and flannel work board 9" x 12". Grades 1, 2, and 3. Young Playways, Inc. (See biblio.)

17. Matching Board

A piece of beaver board about 18" x 24" with two rows of upholstery tacks. Pieces of colored yarn are attached to the row on the left to be looped around the correct or matching tack on the right. Flash cards are thumbtacked on.



1. Devices for finger tracing. These may be used either for manuscript or cursive or number symbols.
 - a. Cut out a letter or word from heavy cardboard or oaktag. Make the cutout the width of a child's finger so that he can feel the way the letter or word is written.
 - b. Molds made in shallow boxes or pans with plaster of paris. The letter or word may be painted leaving the background plain.
 - c. Sheets of cork can serve in the same manner as the plaster of paris molds. It is more successful to burn the letter or word in cork.
 - d. The use of wet sand in trays is probably the least expensive and most available. Pour enough sand in a tray, sprinkle it with water and have the child write in the sand.
2. Pipe cleaners are easy to work with both for the children and teacher. The ends of the pipe cleaners should be turned in $\frac{1}{4}$ " by the teacher before she gives them to the children to prevent their getting cut or scratched. Then they may be made into letters or numbers. The teacher may want to attach pipe cleaner letters to cardboard for the children to feel the form. If this is done, push the ends of the pipe cleaners through the cardboard and attach with scotch tape on the back.
3. Thumb tacks put in beaver board or cork in the letter forms is another device to help the child feel the letter or number. Framing a letter or number by sticking pins with large colored heads into paper pattern which has been mounted on beaver board surface.
4. Writing Clipboard. This board holds the paper in place so the physically handicapped child may write, draw, or color. It is made of a smooth surfaced pressed board with clips at the top and sides. It has a block under one edge which holds it at an angle for more comfort in writing. (See biblio. California Bulletin.) Diagram p. 14.



5. Plastic numbers and letters
 48 T 528 120 piece set \$1.98
 Montgomery Ward Toy Catalogue 1955 (See biblio.)
 Letters and numbers are $1\frac{7}{8}$ " high.
 Capital letters only.

B I B L I O G R A P H Y

1. Guiding Arithmetic Learning
Clark and Eads
World Book Co., New York, 1954
2. New Primary Manual
Curriculum Bulletin 300
The Cincinnati Public Schools, 1953
3. Creative Playthings, Inc.,
5 University Place,
New York 3, N. Y
4. Teaching the Cerebral Palsied Child
California State Department of Education
Vol. XXIII, No. 7
November 1954
Handbook for Teachers
5. Educating the Retarded Child
Kirk and Johnson
Houghton Mifflin Company, 1951
6. Psychopathology and Education of the Brain-Injured Child
Strauss and Lehtinen
Grune and Stratton, N. Y. 1947
7. American Journal of Mental Deficiency
January 1954
Vol. 58, No. 3
Teaching Reading to the Brain-Injured Child
by Mayme Dinsmore, pp. 431-435
8. The 1955 Toy Catalogue
Montgomery Ward, Baltimore, Maryland
9. Aphasia Therapeutics
Mary C. Longerich and Jean Bordeaux
MacMillan Company, N. Y., 1954
10. Young Playways, Inc.,
3404 Connecticut Avenue, N. W.,
Washington, D. C., Emerson 2-7519
(10% discount to schools and institutions.)
11. Manipulative Devices (Arithmetic)
John C. Winston Co.
1010 Arch Street
Philadelphia 7, Pa.

THE LANGUAGE ARTS

Points of View

Listening

Listening precedes all other language skills and is of primary importance to the slow learner. It provides a readiness for the development of the total program. Listening and reading are closely related. It is through listening and reading that people learn about the first-hand experiences of others. They, then, reconstruct their own previous experiences to create new experiences for themselves.

The teaching of listening is not a new course to be added to the curriculum for the slow learner. It is actually recognizing and using effectively these experiences which are already a part of the pupil's life.

See Language Arts Course of Study for the Elementary Schools of Montgomery County Public Schools for skills, identifying needs, and teaching procedures for the improvement of listening.

Speaking

The ability to speak effectively is important for a successful, happy life in today's world. In teaching the slow learning child, special emphasis should be placed upon speaking, since many of these pupils need help in speech improvement or with specific speech defects. See appendix of the Language Arts Course of Study for the Elementary School.

Many opportunities in a variety of purposeful experiences should be provided for these children. Spoken language precedes written language and follows listening in the sequential development of the language arts program. The development of oral expression is basic to all of the language arts.

See Language Arts Course of Study for the Elementary School of Montgomery County Public Schools for identifying needs in speaking, developing skills in speaking, and suggestions for the improvement of speaking.

Reading

The teaching of reading to slow-learning children, as presented in this guide, emphasizes the corrective, the developmental, and remedial aspects of the program. The similarities and differences of these aspects are noted and suggestions are made about what the slow-learner needs to know and how the teacher should implement the program.

The major differences in teaching reading to mentally retarded pupils are:¹

1. "If the child has attended school for several years and has failed, as is often the case with subnormal children, the teacher should first re-establish the child's security which has been shattered during his years of failure. She will have to do this by presenting the child with materials with which he can succeed, so that confidence may be re-established.

2. "The teaching of beginning reading should be delayed beyond the life age of six since the mental level is far below six. This delay will minimize failure on the part of the child, especially if preceded by a program of pre-reading activities.

3. "Since the rate of learning of subnormal children is slower than that of normals, it is necessary to extend and prolong the various reading periods. Whereas with the normal child chart materials may be presented for the first six to twelve weeks of the first grade, with the mentally retarded child such pre-reading activities and pre-book reading must be extended over a longer period of time.

4. "Since many more repetitions must be given to the mentally retarded child, greater varieties of presentations must be made. This requires a greater degree of ingenuity on the part of the teacher of mentally retarded children.

5. "It is doubtful if a primer, pre-primer, or first reader is interesting to a ten or eleven-year-old child. These books have been written for the normal child of six years. A sub-normal child may be more mature in some respects and may not be interested in materials presented in these first readers. Consequently some changes will have to be made in presenting the mentally retarded child with reading materials. The material will have to be adapted in such a way as to include simple vocabulary, many repetitions, yet an interest content which appeals to children beyond the age of six."

Writing

In teaching writing to the slow learning child in elementary school, emphasis should be placed on both freedom of thought and expression and the mechanics of writing. When the child has something important to say and is relaxed and free to write, he will want to record it. Lack of production often stems from not knowing how to make certain letters or how to join those he can make in isolation. Since learning is slow for this type of child, the expression of ideas in appropriate grammatical and mechanical form should not be attempted in concentrated lessons. The needed mechanics that can be anticipated should be taught and repeated beforehand, thus making for a feeling of freedom and a minimum of frustration in the written production period. While production goes ahead, the slow learning child should feel free to ask for mechanics or forms he needs. These should be given him and his need noted. A direct approach to the teaching of form and mechanics should not be made at the time that expression of ideas is uppermost in his mind. There is a time for teaching these mechanics, however. With the slow-learning child, who learns by repetition, more time must be spent on drill on needed forms and mechanics than that given the normal child. Charts showing forms and charts showing procedures can be used as a constant reminder for standards of usage. The slow-learning child will need help in using these charts; incidental reference to them, after the initial direct approach to their use, will not suffice for the slow-learner. Frequent repetition and drill are indispensable.

If the teacher can create a permissive atmosphere, the pupil's sense of self as a person who has something to say can be so strengthened that he wants and is able to reveal himself through writing. He trusts the teacher because he knows he will support and respect him, and he believes that he will handle with care his writings.

Language Arts Course of Study for the Elementary School of the Montgomery County Public Schools suggests teaching procedures for the improvement of writing.

¹ Kirk, Samuel. Teaching Reading to Slow-Learning Children. New York: Houghton Mifflin Co., 1940.

HANDWRITING

Point of View

Handwriting is an essential tool of written communication. The child will use this tool to give and receive ideas clearly and accurately through written expression.

The emphasis in handwriting instruction is placed upon legibility and use. Words, phrases, and sentences are the units of thought. Purposeful writing will be primarily concerned with those words, phrases, and sentences which the child has need in his writing activities. Some drill on isolated forms or mechanics seems justifiable with slow learners. Such items should be taken from context where the error occurred. As correction is made and the habit becomes fixed, additional opportunities for natural use of the new learnings should be arranged by the teacher. Take out of context for drill to master -- put back into meaningful context.

Some Suggestions for Identifying Needs in Handwriting

Children's handwriting needs are discovered through:

Observation of the teacher: The teacher observes readiness to write by checking their abilities to listen to directions, follow directions, express ideas, show coordination, tell stories in sequence, and read manuscript or cursive writing.

Formal and informal tests: The teacher checks standard tests in reading readiness, mental maturity, and achievement.

Record of children's work: The teacher notes progress, difficulties, and attitudes toward handwriting.

Use of children's accumulated records: The teacher studies and interprets audiometer results, vision tests, and diseases.

Conference with parents: The teacher checks attitudes toward writing program and helps to develop better attitudes of children.

Conference with children: The teacher reviews writing difficulties and comments on good points.

Refer to the Language Arts Course of Study for the Elementary Grades of Montgomery County, pp. 149-156 for suggestions for teaching procedures for improving handwriting and for developing skills in handwriting, also see appendix of same, pp. 5-7, questions 1-15.

SPELLING

Point of View

In every class of slow-learning children there will be a wide range in the developmental growth patterns and in the experimental backgrounds of the children. Their spelling needs will vary; the instruction must vary accordingly. In spelling instruction, motivation is the initial step because the child's learning is dependent upon his desire for learning to spell correctly. This motivation must be varied, interesting and meaningful. Spelling instruction is effective when the child is able to write the words that he needs and when he feels that he has achieved some success. The teacher should provide meaningful experiences in writing and devote more time to teaching than to testing.

Some Suggestions for Identifying Needs in Spelling

Determination of Spelling Readiness

The child is ready for spelling instruction when:

He gets the meaning of what he reads easily.

He is able to express his ideas clearly.

He has a basic sight vocabulary of approximately 300 words (these are found in the reading list or the basal reader vocabulary.)

He has the visual discrimination necessary to see likenesses and differences in words, such as: pat, pan; go, going.

He has the auditory discrimination necessary to hear the exact likenesses and differences in words, such as: dig, pig; since, sense.

He has established some independence in word analysis; for example, he can see prefixes, suffixes, and word variance, and can look at words from left to right.

He wants to write about some experience.

Refer also the Language Arts Course of Study for the Elementary Grades, pp. 157-166, for suggested Teaching Procedures for the Improvement of Spelling.

DIAGNOSTIC PROCEDURES

Diagnosis of Mental Ability

The first step toward diagnosing the needs of the student is to determine his ability. Many students will have had one or more group intelligence tests and should have had an individual psychological test.

Group Tests

Group tests are usually available for scheduled testing from the Board of Education Office in Rockville. Principals refer

Individual Tests

requests for individual psychological study to the Psychology Department through their pupil personnel worker. Special class students should be given group tests every year. Regular class

Retest

students are tested every third year. All special class students must have individual psychological scores. These should be rechecked if they seem to be wrong. It is wise to recheck them routinely after about three years.

C. A.

The test data will tell you the chronological age of the student at the time he was tested. This means the number of years he has lived. It will also give you his mental age at the time

M. A.

of the test. If a twelve year old child has matured or developed mentally only one half as fast as most children do, he would have a mental age of six when he has a C. A. of twelve. Mentally he would be able to do the sorts of things that many six year olds can do. The M. A. shows the mental maturity that a child has at a particular time. His mental age will increase as his functional level increases. His M. A. may be recorded in months. Divide by twelve to find his M. A. in years. His score may show that he has matured more rapidly in language usage or non-language, and thus his M. A. in these two areas will be different. The average of these two M. A. 's will show his Mental Age on the date of the test. To determine the up-to-date mental age, the teacher may apply the formula $I. Q. \times C. A. = M. A.$ If the child's I. Q. is 75 and his present C. A. is 13, the teacher finds his M. A. thus:

$$.75 \times 13.0 = M. A.$$

$$.75 \times 13.0 = 9.75 \text{ or } 9 \text{ years and } 9 \text{ months}$$

This method of computing should be used only when current scores cannot be secured.

I. Q.

The I. Q. shows the rate at which the child is maturing. If valid test scores are obtained under normal circumstances, the I. Q. will remain the same from year to year. Physical, emotional, and environmental facts may cause the I. Q. to fluctuate. The psychologist usually indicates on the report whether or not he feels the score is a valid one.

Grade Placement

Some test scores show the intelligence grade placement. This means the grade level at which the child should be able to succeed at the time of the test. This may also be determined by determining the present mental age of the child and comparing it with age-grade standards.

DIAGNOSTIC PROCEDURES (contd.)

Grade Placement (Grade level at time of test)	Mental Age	Grade Level Expectancy
---	------------	------------------------

6-6	First Grade
7-6	Second Grade
8-6	Third Grade
9-6	Fourth Grade
10-6	Fifth Grade
11-6	Sixth Grade
12-6	Seventh Grade
13-6	Eighth Grade

Level of Expectancy The mental maturity or M. A. of the child will be an index to the level of achievement that can be expected of him. It will not show specific physical, emotional, and social limitations which may be delaying this expected achievement.

Diagnosis of Reading Achievement

Available Tests The Department of Research and Testing at the Board of Education Office, Rockville, Maryland, furnishes California Achievement tests to all county schools. The testing schedule for the county will show the alternate grades to be tested in a given year and the time when these tests will be given. Special classes should be tested every year. They should be scheduled for testing at a time agreeable to the school, the Director of Research and Testing, and the Supervisor of Special Education.

Tests Recommended The California Achievement test is only one of many satisfactory tests for checking reading achievement. In addition to the many good general achievement batteries there are diagnostic tests which deal only with reading. Some are especially helpful in diagnosing specific types of problems. The Supervisor, the Director of Research and Testing, and the principal will help to choose the test which best meets the needs. These tests may be ordered directly from the companies or through the research department but must be paid for by the individual schools. The Supervisor and the Director of Research should be sent copies of the test results.

I.R.I. An informal reading inventory is a good diagnostic procedure. A copy of an informal reading inventory through fourth grade level with directions for administering and scoring, is included.

DIAGNOSTIC PROCEDURES (cont'd.)

Diagnosis of Causes of Under-achievement in Reading

The mental maturity test score indicates the child's ability to learn and the level at which he should be achieving at the present time. The achievement test score indicates his level of achievement, where he is succeeding and where he is ~~falling~~. If he is not achieving at the level of ability, ~~the~~ cause of his under-achievement must be found.

The teacher must learn to recognize symptoms and causes of reading disabilities. He should strive to learn how to tell when a child needs to be referred for clinical study. He should know when and how he can meet the small needs in the classroom. He should know when a child needs a developmental program and when he needs corrective help. A child with physical and organic difficulties should be referred for medical and clinical attention before the child becomes frustrated. Psychological and/or psychiatric help should be secured for the severely disturbed child.

The teacher has a responsibility. Some things he can do are:

- Use all available aids in analyzing test results.
- Become familiar with the material on reading which has been developed in the county.
- Take courses in reading, read professional references and participate in in-service programs.
- Ask the principal and supervisor for help.
- Fill out a referral sheet to call in a pupil personnel worker or the school psychologist. They can advise, aid in parent-school planning, and arrange for additional services for the child.
- Discuss the case with the school nurse. She can contact the child's physician and be helped in parent conferences. The nurse can arrange for specialized medical diagnosis and clinical care for the child.
- Learn to recognize, record, and report clues which may be significant in the diagnosis of causes of reading disabilities. Some which may point up the need for medical and clinical help are:
 - The child has a M. A. of over 7 years and a good vocabulary, but does not recognize likenesses and differences of words.

The child has an M. A. of over 7 years but has difficulty copying correctly words which he uses freely in conversation.

The child seems mentally alert but has a peculiar gait and/or other signs of poor coordination.

PREPARATION AND ADMINISTRATION OF AN INFORMAL READING INVENTORY

I Purposes of an inventory

- A. To determine a pupil's standing with reference to
1. Independent reading level: The highest level at which a pupil can read on his own with high comprehension and enjoyment.
 2. Instructional reading level: The highest level at which the pupil can read with good comprehension and enjoyment under teacher guidance which meets his needs.
 3. Frustration reading level: The lowest level at which reading is a frustrating experience because of word recognition and comprehension difficulties.
 4. Probable capacity for reading level: The highest level of reading material which the learner can comprehend readily when the material is read to him.

II Selection and preparation of materials

- B. To discover specific reading needs of a pupil. This information may be used to:
1. Determine membership in a reading group.
 2. Determine emphasis during reading lessons at the instructional level.
 3. Estimate the rate of progress which may be expected of a pupil.
- A. The word-recognition test.
1. Word recognition tests may be prepared for grades one, two, and three. At the first grade level there may be a test on the pre-primer, primer, and first reader levels. Each test, excepting possibly the pre-primer, should include 20 words. The lists of words should be typical of those introduced at the given level. The lists of "new words" with the readers may be used in making up the tests. To facilitate administration, the teacher should use double spacing in typing the paragraphs.
 2. The words for each level should be arranged in columns, double spaced to facilitate flashing. Spacing to record responses may be provided.
- B. Paragraphs for oral and silent reading, including comprehension questions
1. Secure the books of a basal reading series. The series should be one which the pupil has not used. (Social studies and science books may be used to evaluate a pupil's status with reference to such materials)
 2. In each book of the series choose two selections which seem to be typical of the entire book. The number of words in each selection may range from fifty in grade one to about 200 words in grade eight. Select paragraphs which can be comprehended without knowing content which precedes or follows them.

- C. Prepare six to ten questions on each selection.
 - 1. The questions should be arranged in sequential order.
 - 2. Some of them may call for a word, phrase, or simple sentence.
 - 3. Some of the questions should call for inference or interpretations.
 - 4. Yes or no questions, if used, should be followed by request, for reasons.
 - 5. The questions should be phrased clearly, and then should be as short as possible.
 - 6. The answer for each question should follow the question on the examiner's copy.
- D. Prepare two or three sentences which may be used to introduce or motivate the reading of each paragraph.
- E. The questions and paragraphs should be arranged in convenient form for the examiner's use. The pupil should read from the book.

III Procedures

- A. To insure normal performance the pupil's interest should be aroused and his confidence should be secured. There is no standardized procedure for this.
- B. Administer the word-recognition test.
 - 1. One card with an appropriate slot or two cards, may be used to flash each word. If the pupil fails on the flash presentation, allow an untimed presentation.
 - 2. The pupil's performance on word recognition provides some indication of the level at which reading of the paragraphs may be initiated.
 - 3. The examiner should notice and record the pupil's word-attack skills and habits.
- C. Procedure to determine independent reading level. Start with a book which will offer very easy reading. Ask the pupil to read a selection orally. Use the comprehension questions after the reading. Then ask the pupil to read the second selection silently. Use the comprehension questions. Repeat this procedure with the next book of the series. A given book is the independent reading level if:
 - 1. The pupil recognizes 99% of the words.
 - 2. The pupil reveals about 90% comprehension.
 - 3. The pupil does not reveal head movements, finger pointing, lip movement or vocalization during silent reading, word-by-word reading, high-pitched or unnatural voice, substitutions, repetitions, and other symptoms of uncomfortable and unprofitable reading.

D. Identification of instructional level. In the procedure indicated in C the instructional level is reached when:

1. The pupil recognizes 95% of the words.
2. The pupil's comprehension falls to about 75%.
3. Same as C-3 immediately above.

E. Identification of the frustration level. In the procedure indicated in C the frustration level is reached when:

1. The pupil fails to recognize 95% of the words.
2. The pupil's comprehension is about 50% or less.
3. Symptoms of tension and unprofitable reading are present (opposite of C-3).

F. Identification of capacity level. When the frustration level has been reached, read selections from the next book. Follow each selection with comprehension questions. Materials may be regarded as of the capacity level when:

1. The pupil's comprehension is 75% or above.
2. The pupil can converse intelligently about the content, using words found.

IV General Suggestions

A. Symbols such as the following may be used to record information on the examiner's copy:

1. Hesitations: If a pupil hesitates for five seconds, pronounce the word and draw a line through it.
2. Mispronunciations; and substitutions: Write the child's pronunciation above the word. If only part of the word is mispronounced, write the child's pronunciation.
3. Omissions: Encircle the omitted words.
4. Insertions: Write the word; indicate its place with a caret.
5. Repetitions: Draw a line under the word or words.

B. The person administering the inventory should constantly observe the pupil's reaction to get information on his abilities, skills, attitudes, and emotional responses. Information gained in this way may be as useful as percentages mentioned in III above. A check list of symptoms of difficulty may be useful to objective observation and for record keeping.

INFORMAL READING INVENTORY*

(The Ginn Basal Readers by David H. Russell and others, 1948)

INDIVIDUAL WORD RECOGNITION TEST

<u>Pre-Primer</u>	<u>Primer</u>	<u>First Reader</u>	<u>Second Reader</u>	<u>Third Reader</u>
the	like	many	air	above
a	one	be	cook	were
and	girl	time	know	kept
I	no	thing	side	also
to	did	way	noise	beautiful
mother	me	other	dress	fasten
is	do	when	bark	stove
you	with	their	string	invite
come	for	would	through	float
father	he	work	across	empty
little	my	night	over	heard
said	away	off	floor	clothe
big	are	old	wash	hundred
in	red	again	while	careful
here	they	water	beauty	wonderful
go	at	took	hard	different
can	some	know	anything	lovely
on	came	over	hear	path
we	want	please	behind	whole
play	walk	next	build	indeed

* If the teacher writes the word the child mispronounces, it will serve as a valuable clue in diagnosing the child's difficulty and will give him an insight as to the skill needed by the particular child. It will also aid him in grouping according to skills needed.

Second Pre-Primer - My Little Green Story Book

Oral (34 words): P. 39

This story tells about Susan riding a pony. The pony did not mind Susan.
Read to find why the pony did not want to mind Susan.

Susan said, "Stop, Pony, Stop.
I see something red.
Here is something red, Pony.
Tom! Tom! Stop Pony."

Tom said, "Pony wants to go.
Pony can see father.
Pony wants to go to dinner."

1. What did Susan tell Pony to do? (Stop)
2. What did Susan ask Tom to do? (Stop - Pony)
3. What makes you think that Pony did not want to mind Susan? (She had to ask Tom to stop Pony) - I
4. Why didn't Pony want to stop? (He could see father; he wanted to go to dinner) - I
5. What did Susan see? (Something red)
6. Whom could Pony see? (Father)
7. What makes you think that Pony was hungry? (He wanted to go to dinner)
8. Why did Susan want Pony to stop? (To see something red; to get an apple) - I

Silent (36 words): - P. 60

One day while mother was working in the kitchen she called two of her children. She wanted them to see something. What did she want them to see?

Mother said, "Come here, Tom.
Come here, Susan.
Come and see the big cake.
This cake is for Betty.

This is a surprise cake."
Tom said, "Here we come.
We want to see the surprise cake."

1. Whom did mother call? (Tom and Susan)
2. Why did she call them? (She wanted them to see a big cake)
3. What did Tom say when mother called? (Here we come; we want to see the surprise cake.)
4. For whom did mother bake the cake? (Betty)
5. Did Betty know that the cake was for her? (No, it was a surprise cake) - I
6. Who was probably having a birthday soon? (Betty) - I
7. How many children did mother call? (Two: Tom and Susan)
8. How do you know that someone was with Tom when mother called? (Tom said, "Here we come") - I

Third Pre-Primer - My Little Blue Story Book

Oral (47 words): P. 43

In this story two people are going to work together. What are they going to do?

"I can help you", said Father
"I can help you make a house.
We can work and work.
We can make a play house.

"I can help," said Susan.
"I have something for the house.
Here is the little blue chair.
This is for the play house."

1. Which people are working together in this story? (Susan and father) I
2. What are they going to do? (Build a house; or build a play house)
3. What did father say that he would do? (Help build a house)
4. What kind of house were they building? (A play house)
5. What did Susan have for the play house? (A chair; a little blue chair)
6. Who will probably use the house after it has been built? (Susan) -I
7. What kind of chair did Susan have? (Little blue)
8. Was Susan's little blue chair far away? (No, she said, "Here is the little blue chair") - I

Silent (44 words) : P. 54

You will now read about some people who are going to do something. What are they going to do?

Father said, "Mother is here.
Betty and Susan are here.
Tom is here.
Where is Flip?"
Tom said, "Here comes Flip.

Flip wants to go for a ride."
"Come fast, Flip," said Betty.
"You can go for a ride.
We want you to go."

1. What are they getting ready to do? (Take a ride) -I
2. How many children were going on the ride? (Three - Tom, Susan, Betty)
3. Who else was with father and the children? (Mother)
4. Who asked about Flip? (Father) What question did father ask? (Is Flip here?)
5. Was Flip in the car when father asked about him? (No. Tom said, "Here comes Flip." Or, Betty said, "Come fast, Flip.") - I
6. Who said, "Come fast, Flip"? (Betty)
7. What else did Betty say? (You can go for a ride; we want you to go for a ride)
8. How did Flip probably show that he wanted to go for a ride? (By running toward the car) - I

Primer - The Little White House

Oral (49 words): - P. 56

In this story a boy received a present. What did his mother tell him to do with his present?

"This is a good birthday.
I wanted a new red wagon."
Mother and Father laughed.
"Now run and play." said Mother.

"A new red wagon!" said Tom.
"A new red wagon for me!
Thank you, Mother and Father.
This is a good surprise."

1. What did Tom receive? (A wagon)
2. What kind of wagon did he receive? (A new red wagon)
3. Who gave him the wagon? (His mother and father)
4. Why did they give him the wagon? (It was his birthday) - I
5. Did Tom know that he was going to receive a wagon? (No, it was a surprise) - I
6. What did mother tell Tom to do with his present? (Run and play; have fun)
7. What did Tom say to show that he was pleased with the new wagon? (Thank you; this is a good birthday; this is a good surprise) - I
8. What did his mother tell him to do with his wagon? (Run and play)
9. What else did mother say? (Have fun with the new wagon)

Silent (47 words): - P. 72

In this story some children are getting ready to go to a store. Why are they going to the store?

"Good, good!" said Tom.
"Get ready to go, Betty.
Get ready, Susan.
We will go to the toy store.

You can help us get a new toy."
"Here I come," said Betty.
"I like to go to the toy store.
I like to see the new toys."

1. Where are the children going? (To a toy store)
2. Why are they going to a toy store? (To buy a toy) - I
3. Who was going to get a new toy at the store? (Tom)
4. How did Tom show that he was happy to go to the toy store? (He said, "Good, good!.")
5. Who was going to the store with Tom? (Susan and Betty)
6. What did Tom tell Susan and Betty to do? (To get ready)
7. What could Susan and Betty help do at the store? (Help buy a toy for Tom)
8. Who said that she likes to go to the Toy store? (Betty)
9. Why does Betty like to go to a toy store? (To look at the new toys)

First Reader - On Cherry Street

Oral (70 words) P. 109

This story tells about a turtle who started to take a walk. However, before long he wanted to go back to his home. Read the story to find out why the turtle wanted to go back home.

The little turtle's home was in the brook.
One day he went for a walk.
He wanted to see what was over the hill.
So the little turtle walked away from the brook and up to the hill.
Soon the sun came out.
"I must go back to the brook", said the little turtle.
"I do not like the sun.
I want to go back to my home in the water."

1. Where was the little turtle's home? (Brook, or water)
2. What did the little turtle do one day? (He went for a walk)
3. Why did he want to go for a walk? (To see what was over the hill)
4. What happened soon after the turtle started on the walk? (The sun came out)
5. What did little turtle say when the sun came out? (I want to go back to the brook, or home)
6. Why did the turtle want to go back home? (The sun was too hot) - I
7. In what way is a brook different from a pond? (Water in a brook flows - I
8. Why wasn't the sun shining when the turtle started to take the walk? (Probably cloudy; the story says that the sun came out) - I

Silent: (70 words) P. 186

You will now read about two ducks and a rabbit. The rabbit wanted the ducks to do something for him. What did he want them to do?

Two ducks came down the brook.	I want to get over to the other side.
"Quack, quack," they said.	It is time for my dinner.
"Good morning, Mr. Rabbit."	I want some corn and cabbage.
"Stop, stop," called Mr. Rabbit.	Will you take me over on your backs?"
"Will you please help me?	The two ducks said, "Quack, quack.
Will you take me across the brook?	Get on our backs."

1. When the ducks saw Mr. Rabbit, they said, "Quack, quack". What else did they say? (Good morning, Mr. Rabbit)
2. What did the rabbit ask the ducks to do? (To take him across the brook)
3. Why did the rabbit want to go across the brook? (It was time for dinner; he wanted something to eat)
4. What did the rabbit want for dinner? (Some corn and cabbage)
5. What makes you think that the ducks were walking or swimming when the rabbit saw them. (He called, "Stop, stop") - I
6. What word tells you that Mr. Rabbit asked for help in a polite way? (Please) - I
7. What did the ducks tell the rabbit to do? (Get on their backs)
8. Was there timber land or farm land on the other side of the river? (Farm land, because there was corn and cabbage) - I

Second Reader, First Level - We Are Neighbors

Oral: (80 words) P. 63

This is a story about a cat and her kittens. She wanted to do something with her kittens. What did she want to do?

Tabby and her three baby kittens lived in Bill's barn. Tabby thought that they were all beautiful kittens. One of the kittens was white.

One kitten was black, and one was black with white paws like her mother.

Tabby wanted to take her kittens into the house. She wanted Bill's mother to see how beautiful they were. She found in the house just the place she wanted to put her kittens. She has a big box in the back room.

1. Who lived in Bill's barn? (Tabby and her three kittens)
2. What did Tabby think of her kittens? (She thought they were beautiful)
3. What color were the kittens? (White, black, and one black with white feet)
4. What was Tabby's color? (Black with white feet) - I
5. What did Tabby want to do? (Take her kittens into the house)
6. Why did she want to take them to the house? (So Bill's mother could see how beautiful they were)
7. Where did she want to put the kittens after she carried them into the house? (In a big box in the back room)
8. Was Tabby pleased (happy) with the place she found? (Yes; it was just the place she wanted) - I

Silent: (79 words) P. 157

This is a story about a man who was going to do some work in a little girl's house. What work was he going to do in the house?

Mr. Stone got out of his truck. He had on white overalls and a white hat. He had a ladder with him.

And in his truck were the rolls and rolls of the new yellow paper with flowers on it.

Mr. Stone came into the house. He had his paste and the rolls of paper.

Patsy liked to watch Mr. Stone work. First he stirred and stirred the paste. Then he cut the paper and put paste on it.

1. What was Mr. Stone wearing? (White overalls and a white cap)
2. What did Mr. Stone have with him? (A ladder)
3. What was in Mr. Stone's truck? (Rolls of new yellow paper)
4. What did Mr. Stone take with him into the house? (Paste and rolls of paper)
5. What did Mr. Stone put on the paper? (Paste)
6. What did Mr. Stone do to the paste before he put it on the paper? (Stirred it)
7. What was Mr. Stone going to do to the house? (Paper the rooms) - I
8. What did Patsy like to do while Mr. Stone was working? (Watch him work)

Third Reader, First Level - Finding New Neighbors

Oral: P. 98 (114 words) (One day an unusual man came to a small town. He surprised the people. How did he surprise them?)

Once upon a time, on a market day, a peddler came to Forest Hill. Nobody had ever seen him before. Nobody knew his name or where he lived.

All that was strange enough, but there was something stranger still. He carried a heavy bag over his back, and a three-legged stool under his arm. And when he came to the market place, he began to call, "New shoes for old!"

All the good people of Forest Hill came hurrying around him.

"New shoes for old!" they cried. "We cannot have heard right! Who would be silly enough to take our old shoes and give us new ones in their place?"

1. Who came to Forest Hill one market day? (a peddler)
2. How many people were acquainted with the peddler? (No one; nobody)
3. What did he carry on his back? (A heavy sack)
4. What did he carry under his arm? (A three-legged stool)
5. What did he call out in the market place? (New shoes for old)
6. What did the people do when he called? (They came hurrying)
7. How did the peddler surprise the people? (He offered new shoes for old ones.) - I
8. What do you think the peddler had in the heavy sack? (New shoes) - I
9. How do we know that the people were surprised when the man offered them new shoes for old ones? (New shoes for old!" they cried. "We cannot have heard right")
10. How does a peddler differ from a storekeeper? (He goes to people in their homes or on the street to sell ~~them~~ things; the storekeeper sells things in a store.)

Silent: P. 128 (118 words) (This story tells about an Indian boy. It tells what the boy was doing. Does it also tell what his father was doing?)

Little Fox came running down the snowy hillside with his dog ahead of him. He was dressed in winter clothes. He had his bow in one hand and a wild turkey in the other hand.

Little Fox gave his owl call to tell his mother he was coming. When he reached a round bark house near one end of the village, he told the dog to stay outside. Then he pushed open the skin that covered the doorway and walked in.

Singing Water, his mother, was at home alone. His father was away on a long hunt. Little Fox was trying to help his mother by hunting birds and small animals while his father was away.

1. Who came running down the hillside? (Little Fox and his dog.)
2. What had Little Fox been doing? (Hunting) - I
3. How did Little Fox kill the turkey? (With a bow and arrow) - I
4. How does the story tell you that this happened during the winter? (Snowy hillside; winter clothes) - I
5. How did Little Fox tell his mother that he was coming? (Gave his owl call)
6. Of what was the door of Little Fox's house made? (Skin)
7. How do you know that this story is about Indians? (Names; houses; owl call) - I
8. Did this family of Indians live alone in the forest? (No) How do you know? (The house was near one end of the village) - I
9. What did Little Fox tell his dog to do when they came to the house? (Told him to stay outside)
10. Does the story tell what Little Fox's father was doing? (Yes, he was away on a long hunt)

Fourth Grade - Roads to Everywhere

Oral: P. 155 (127 words)

In this story you will read about a boy who liked trains although he had never ridden on one. Now he is going to get a train ride. Why is he getting a ride at this time?

The streamliners were bright with red and orange paint and looked from far away like shiny toy trains. And every time he had seen them, Dan had wished he could have a train ride.

"Where do you want to go on your train ride?" asked his mother.

Dan said, "I want to go to Sunny Hills." That was near his grandfather's farm.

"Oh, ho," laughed Mr. Summers. "You are really going to get two birthday presents in one, I see. A train ride and a visit to the farm!"

Dan smiled and his face got a little red. "Well, how about it?" he said.

"You wouldn't want to go on the streamliner, I suppose?" His father smiled. "A seat on that train must be reserved. I'll try to reserve a seat for your birthday."

He went to the telephone. When he came back, he said, "Everything is O.K."

1. What is a streamliner? (A train) - I
2. Why did the boy get a train ride at this time? (The ride was to be a birthday present.)
3. What did Dan's mother ask him? (Where do you want to go on your train ride)
4. Where did Dan want to go on the train ride? (To Sunny Hills)
5. Why did Dan want to go to Sunny Hills? (That was near his grandfather's farm.)
6. In what way was Dan getting two birthday presents in one? (A train ride and also a visit to a farm) - I
7. Who said that he would try to reserve a seat on the train? (Dan's father)
8. For what day did he hope to reserve the seat? (Dan's birthday)
9. Who went to the telephone? (Dan's father)
10. What did Dan's father mean when he said that everything is O. K.? (That he had reserved a seat on the train for Dan.) - I

Silent: P. 240 (126 words)

This story tells about a man who was driving a fine team of horses. Someone was very happy to see the horses. Who was very happy to see the horses?

One morning a fine team of horses came along with a load of garden vegetables and a man. The man stopped the team right in front of Pete. Then he got out and took the bits out of the horses' mouths and put on nose bags.

Pete could hardly believe his eyes. Horses? Yes, real horses! He could smell them. He began to quiver all over. He got up and went nearer. The man saw Pete and called in a cheerful voice, "Hello, Towser!"

Pete didn't mind being called by another name, for the voice was pleasant. He wagged his tail.

Afterward the man got out a paper bag full of lunch and sat down at the side of the street and began to eat.

1. Who was happy to see the horses? (Pete)
2. Who was Pete? (A dog) - I
3. What did the man say to Pete? (Hello, Towser)
4. Why didn't Pete get angry when the man called him Towser? (The voice was pleasant)
5. What did Pete do when the man called him Towser? (Wagged his tail)
6. What was on the wagon? (A load of garden vegetables)
7. What did the man do with the horses? (Took bits out and put on nose bags)
8. In what did the man carry his lunch? (A paper bag)
9. Where did the man sit down? (At the side of the street)
10. Was the man in the country or in a town. (Town) - I

DIAGNOSTIC PROCEDURES (cont'd.)

Spelling Inventory

The Betts Spelling Inventory, Form M₂, like the Word Recognition Test, can be used to reach an estimate of the pupil's reading level and to determine many of his specific reading difficulties. This is a procedure which a teacher can use early in the term before adequate testing can be done. The procedure for administering and scoring the inventory and word lists to be used at levels 1, 2, 3, 4, 5, 6, 7, and 8 are included in this bulletin. This procedure assumes: that no child read at a level lower than the level at which he spells; that the teacher should understand word analysis skills; and that the Spelling Inventory will not be the only test which the teacher will use.

Procedure in Administering

Give the words for Level I. Betts Form M₂, at the first sitting. (With older children who are not too handicapped, give Level II also.) At each sitting following, give one more level.

Mark the words wrong. For ease in further analysis, underline the part of the word in which the error is made.

As soon as a pupil fails to spell 75 percent of the words in two tests, eliminate him from the testing. Continue until all have fallen below. Chart the scores of the entire class as shown in the accompanying sample.

Use of Results

You can be fairly certain that the basic instructional reading level of the student will be no lower than the spelling level in which he spelled 75 percent of the words. He may have some "immediate" instructional needs-gaps in his skills - at lower levels however, and if so these should be taken care of instructionally. The total at each level will indicate a pattern for grouping for instruction. In addition to this, it is well to include children with similar difficulties in the same group, even though their achievement totals do not seem to warrant it.

Another use for the results of the Spelling Inventory is the diagnosis of children's needs. For example, if a great many of them miss the word stopped because they do not double the "p", this is a point for instruction. Similarly, if there are many attempts at spelling yellow which give a configuration that resembles the work, more help with visual discrimination and the development of sight vocabulary may be needed. This analysis of the kinds of errors made and the recurring pattern of errors for a particular child is one of the most valuable use to be made of the Spelling Inventory and one most often disregarded.

Informal Spelling Inventory: Form M (Betts)

Directions for administering spelling test: a. Pronounce each word.
b. Give it a sentence setting.
c. Pronounce the word again.

<u>Level I</u>	<u>Level II</u>	<u>Level III</u>	<u>Level IV</u>
1. you	1. will	1. laughing	1. food
2. has	2. some	2. oh	2. pins
3. in	3. at	3. could	3. trade
4. be	4. good	4. know	4. race
5. on	5. had	5. letter	5. honey
6. home	6. but	6. yellow	6. choose
7. we	7. man	7. don't	7. color
8. yes	8. look	8. yard	8. family
9. got	9. store	9. grass	9. build
10. not	10. stop	10. rained	10. won't
	11. morning	11. stand	11. wear
	12. take	12. which	12. burn
	13. walk	13. songs	13. thick
	14. happy	14. face	14. wishes
	15. pet	15. lost	15. sounds
	16. off	16. seeds	16. mouse
	17. live	17. dry	17. tomorrow
	18. four	18. few	18. less
	19. boat	19. dark	19. cost
	20. ask	20. safe	20. pages
	21. five	21. flying	21. broken
	22. as	22. among	22. voice
	23. grow	23. gold	23. breakfast
	24. next	24. stopped	24. mailed
	25. book	25. I'll	25. Sept.
<u>Level V</u>	<u>Level VI</u>	<u>Level VII</u>	<u>Level VIII</u>
1. born	1. rapidly	1. ability	1. advantages
2. biggest	2. against	2. expense	2. extreme
3. ought	3. all right	3. liquid	3. science
4. gallon	4. general	4. replace	4. reaction
5. writing	5. common	5. generally	5. disagreeable
6. Wednesday	6. usual	6. envelope	6. experience
7. test	7. choice	7. affect	7. continually
8. badly	8. success	8. improvement	8. enable
9. discover	9. lock	9. present	9. organization
10. sort	10. defeat	10. steer	10. conference
11. quiet	11. carefully	11. split	11. undoubtedly
12. shade	12. complete	12. namely	12. hence
13. tin	13. doubt	13. decrease	13. subway
14. capture	14. trial	14. extremely	14. declare
15. blood	15. accept	15. noble	15. banquet
16. coffee	16. sailor	16. corrected	16. concern
17. railroad	17. conductor	17. mystery	17. magnificent
18. promise	18. reduce	18. securing	18. definite
19. newspaper	19. explore	19. cocoa	19. efficiently
20. earn	20. sense	20. deposit	20. transportation
21. fact	21. diamond	21. introduce	21. capitol
22. record	22. faint	22. explaining	22. fraternity
23. simple	23. object	23. aware	23. evidently
24. valley	24. fright	24. advertising	24. resolution
25. bow	25. limb	25. mayor	25. esteem

SPELLING INVENTORY CHART

Child's name	I*	II**	III	IV	V	VI	VII	VII
---	100%	100%	96%	(88%)***	72%	60%	---	---
---	90	96	88	(76)	68	60	---	---
---	90	96	(84)	72	66	---	---	---
---	90	92	(80)	68	68	---	---	---
---	80	88	80	(76)	72	56	---	---
---	100	96	96	100	92	(80)	60	---
---	70	(80)	72	66	---	---	---	---
---	70	(76)	72	72	60	---	---	---
---	(←)60	72	60	---	---	---	---	---
---	(←)50	50	0	---	---	---	---	---
---	80	68	(76)	72	64	---	---	---
---	70	84	80	(76)	72	68	---	---
---	60	72	(76)	68	64	---	---	---
---	(←) 0	0	---	---	---	---	---	---
---	(←)30	60	56	---	---	---	---	---

These children did not spell 75% of the words at Level I (primer)

4 words 2 4 4 1
 Three teaching groups -- maybe four

There is a parenthesis () around one percentage figure for each child. Look at the top of the column in which the (%) appears and find the spelling and/or reading level at which this child may be instructed.

ANALYSIS OF A SLOW LEARNING GROUP

1. In analyzing a group of slow learners in the public schools of Montgomery County, the committee is indebted to the Research Department of C.R.M.D. Bureau of the New York City Public Schools for two charts, Reading Prognosis Chart and Academic Expectancy Chart.
2. The Reading Prognosis Chart gives the teacher a clue to the eventual achievement the child can attain.
3. The Academic Expectancy Chart is a reference for the teacher's calculation of what he can expect in a child's Performance at any given time.
4. The Analytical Data Chart presents the steps in accumulating data from standardized tests.

Reading Prognosis Chart

Achievement vs Expectancy

A reading prognosis chart is included to show the age at which children with different I. Q.'s may be expected to begin formal reading. It also shows the grade level which these children may achieve by the time they are 16.

<u>The Retarded Groups</u>	<u>I. Q.</u>	<u>M. A.</u>	<u>Age When Reading Should Start</u>	<u>Reading Gr. Potentialities (at 16)</u>	<u>Employment Potentialities</u>
Dull Normal	83-90	14	6.6 - 7.2	7-9	Skilled or Semi-skilled
Borderline (Functionally Retarded)	76-82	13	7.2 - 7.9	6-7	Skilled or Semi-skilled
High Grade Moron (C.R.M.D.)	60-75	12	8.0 -10.0	4-6	Semi-skilled Sheltered Helpers Unskilled
Low Grade Moron (C.R.M.D.)	50-59	9	10.0 -12.0	2-4	Unskilled Sheltered Workers
Imbecile	20-49	8	=====	0-1	Custodial Cases
Idiot	0-19	3	=====	—	

ACADEMIC EXPECTANCY CHART **

C.A.	Slowest I. Q. 50-59				Average I. Q. 60-69				Advanced I. Q. 70-75			
	M.A.	R.G.	A.G.		M.A.	R.G.	A.G.		M.A.	R.G.	A.G.	
7-0 7-11	3-6 4-8	R.R.	A.R.		4-2 5-6	R.R.	A.R.		4-11 5-11	R.R.	A.R.	
8-0 8-11	4-0 5-3	R.R.	A.R.		4-10 6-2	R.R.	A.R.		5-7 6-8	R.R.	A.R.	
9-0 9-11	4-6 5-10	R.R.	A.R.		5-5 6-10	R.R.-1A	R.R.-1A		6-4 7-5	R.R.-1B	R.R.-1B	
10-0 10-11	5-0 6-5	R.R.	A.R.		6-0 7-6	R.R.-2A	R.R.-2A		7-0 8-2	1B - 2B	1B - 2B	
11-0 11-11	5-6 7-0	R.R.-1A	R.R.-1B		6-7 8-3	1A - 2B	1A - 2B		7-8 8-11	2A - 3B	2A - 3B	
12-0 12-11	6-0 7-8	R.R.-2A	R.R.-2A		7-2 8-11	1B - 3B	1B - 3B		8-5 9-9	2B - 4A	2B - 4A	
13-0 13-11	6-6 8-0	1A - 2B	1A - 2B		7-9 9-5	2A - 4A	2A - 4A		9-1 10-3	3B - 4B	3B - 4B	
14-0 14-11	6-10 8-5	1B - 3A	1A - 3A		8-2 9-10	2B - 4B	2B - 4B		9-6 10-9	4A - 5A	4A - 5A	
15-0 15-11	7-2 8-10	1B - 3B	1B - 3B		8-7 10-4	3A - 4B	3A - 4B		10-0 11-3	4B - 5B	4B - 5B	
16-0 17-0	7-6 8-11	2A - 3B	2A - 3B		9-0 10-5	3B - 4B	3B - 4B		10-6 11-3	5A - 5B	5A - 5B	

***An academic expectancy chart shows the level of achievement to expect of children C. A.'s 7 to 17 and I. Q. 50 to 75. For example, a 14 year old with an I. Q. of 70 should be doing fourth grade level work.

ANALYTICAL DATA CHART

The following is a list of data needed for analytical study of pupils. It is suggested that this order be followed.

1. Full names. Arrange alphabetically.
2. C. A. — Chronological age as of September 1.
3. M. A. — Mental age (from California Test) and others.
4. I. Q. — Intelligence quotient (from California Test).
 - a. Language I. Q.
 - b. Language G. P. — (grade placement)
 - c. Non-language I. Q.
 - d. Non-language G. P.
 - e. Total I. Q.
 - f. Total G. P.
5. Reading Expectancy
Very important for study of slow learners. See Academic Expectancy Chart, preceding page.
6. California Achievement Data
 - a. Read. Voc. — Reading vocabulary in grade placement
 - b. Read. Comp. — Reading comprehension in grade placement
 - c. A. R. — Arithmetic reasoning grade placement
 - d. A. F. — Arithmetic fundamentals grade placement
 - e. Sp. — Spelling grade placement
7. S. I. — Spelling instructional level by Betts Spelling Inventory, Form M.
8. I. R. I. — Informal reading inventory instructional level
9. Durrell-Sullivan G. P.
 - a. Cap — Capacity
 - (1) Voc. — Vocabulary
 - (2) Comp. — Comprehension
 - b. Ach. — Achievement
 - (1) Voc.
 - (2) Comp.
10. Reading readiness test results.

Any particular physical or emotional handicaps should be noted on a separate sheet and attached to the Data Chart.

Any discrepancies between latest test results and earlier records should be noted in writing.

Pertinent developmental data in pupil's folder should be mentioned. This should include analysis of elementary reading progress as recorded on the cumulative basic-reader sheet.

GROUPING

Within any class many differences in interest, past experiences, capacity, and achievement level exist. For some activities taking place in the class, then, the pupils will not be ready to profit from working as a total group. For other activities, the interactions of all the class members may be a profitable and, indeed, an essential thing. Various kinds of groups may evolve as an experience unit is pursued.

Reading Level Groups: One basis for the determination of working groups is the achievement level of the pupil. For instruction in reading, for instance, the class is divided into groups in which children with similar instructional levels in readings are placed together. Groups so determined cut across interests, capacities, and needs. Materials for each group are selected at the desired instructional level. All the members of the group use the same material for directed reading activities. Within a given group, common elements are the pupils' reading levels and the readability of materials; diverse elements are pupil's interests, experiences, capabilities, and specific needs.

Interest Groups: A second basis for grouping lies in the interests of the pupils. Members of a particular group are those who share a common problem or interest. Groups determined in this way cut across achievement levels, capacity levels, and specific needs as in the reading level groups. Here, materials used are selected on the basis of helping with the solution of the problem or of satisfying a particular interest. Materials should be pertinent to the problems, yet understandable. A collection of materials on the same topic, but at various levels of difficulty, must be available.

Within the interest groups, reading level groups may still function. Those who are pursuing a special interest and need instruction in reading at the same level may use the same materials in their work. Guidance in reading is given as they attempt to solve their problem. In this case, the interest group is composed of several reading level groups dealing with materials pertinent to a common problem.

"Special Needs" Groups: As special needs in reading and other areas develop, they become a third basis for grouping. The ability to differentiate between relevant and irrelevant materials may be underdeveloped in certain members of the class. Several children may have encountered difficulty in dealing with the various sounds represented by the letter g. When needs of this type in comprehension, word-form recognition, or any other area are evident, groups are formed of those who need the help; and instruction is provided.

In "special needs" groups, the common element is the need for overcoming a particular weakness. Diverse elements are the interest areas, capacity levels, and achievement levels of the children involved.

Regrouping: No one of these bases for grouping is adequate for accomplishing all the aims of the class. The classroom is not organized, then, in permanent groups for all activities. Instead, the composition of the group can and must change as the purpose for which it is formulated varies. The working group is made of always of those who have common needs and purposes and can, with profit, meet them cooperatively.

Knowledge about reading levels: If reading is to be done effectively with abilities in that area furthered, all concerned must have certain understandings about achievement levels in reading. Each pupil needs to be literate about the standards for a good performance in reading. He cannot, otherwise, be expected to judge his ability to handle materials independently on an instructional basis. As he considers materials for possible use, he should know at what level he can function independently and at what level he can use materials, with profit, under teacher guidance. This gives him a starting point in selection of references and recreational reading. His understanding of what constitutes an adequate reading performance gives him a final measure of the suitability of the particular material.

Teachers, librarians, parents, or other adults who may be involved in selection of materials for children need to know each child's independent and instructional levels. The child, otherwise, may be confronted with books or articles which either present no challenge or are completely beyond his grasp. When the child is to read without direct teacher guidance, materials on the independent level must be chosen. When the reading is to be carefully directed, materials should be at the child's instructional level.

All this information is essential if grouping of the types discussed is to be successful. In addition, the child's hearing capacity level is important. Without a knowledge of the level of materials that a child can comprehend in a discussion through hearing, the teacher wastes a great deal of both his and the child's time. He may present to the class materials read orally or materials discussed well beyond their comprehension level.

Within the framework of an experience approach, materials of all levels of difficulty must be available. These materials must be relevant to the problems which the children are attempting to solve and must be of many types so that all the class members can develop facility in many kinds of reading. Limiting the classroom library to scientific references would help no more in developing versatility in reading than would a steady diet of story-type materials. For successful instruction in reading through an experience approach, a teacher must have a variety of materials ranging in difficulty and subject matter and must vary his presentation.

Conditions necessary for learning and instruction: If the classroom setting is of the type described, the grouping carefully worked out on the basis of a sound knowledge of the children, and the necessary materials available, activities proceed.

Taken from unpublished material. Address made by Marjorie Seddon Johnson, Supervisor, The Reading Clinic Laboratory School, Temple University, January 1953.

Pupil Progress by Use of Skill Sequence Progress Chart

It is important that the teacher know each child's ability, his limitations, his level of achievement, and specifically with what things he needs help. The language arts skill sequence has been reorganized for more practical use and is being developed further. Each teacher may now get from the Supervisor of Special Education a copy of the sequence for each child in the class. Each skill that the child uses independently should be checked on his skill sequence chart. Keeping a skill sequence chart for each child should serve three major purposes.

It is a record of the specific skills and understandings which the child uses independently. This record should stay in his school folder and go with him through school. It will serve as a guide for all teacher-pupil planning.

It helps the teacher to avoid the mistake of assuming that the children have concepts and skills which they do not actually have. Before presenting a new concept or skill, the teacher should list all of the things a child must know before he can understand or achieve the skill or concept in question. He should then review the sequence charts of the class to determine how many class members have the necessary background or understandings for the new concept.

It serves as a frame of reference for grouping the class for instruction or for planning activities for individual children.

Teachers of slow learning children should be furnished with the Language Arts Course of Study for Elementary Schools, Bulletin No. 121, September 1954.

As background for dealing with any of the facets of language arts for slow-learners, as set forth in this Special Education Course of Study, the appropriate corresponding section in the above bulletin should be used.

For: Personal-Social Development-see pp. 3-20 in Bulletin 121.

Listening ----- see pp.23-37 in Bulletin 121.

Speaking ----- see pp.38-52 in Bulletin 121.

Reading ----- see pp.53-75 in Bulletin 121.

Writing ----- see pp.135-166 in Bulletin 121.

Literature, Study Skills see pp. 76-134 in Bulletin 121.
and related matters

SKILL SEQUENCES IN LANGUAGE ARTS

Readiness Level: Mental Age Below 6.6

Personal-Social
(see also Language
Arts Bulletin #121,
pp. 3-11, incl.)

- *Spends a large proportion of time playing alone, rather than with other children or plays in groups of two or three
- *Plays with imaginary playmates occasionally
- Works and plays easily with a group and respects rights of others
- *Uses dolls in reliving personal experiences
- Plays the part of being a host or a hostess
- Imitates adult activities
- Uses feet alternately in skipping and going up and down stairs
- Tosses and bounces ball; later throws and catches it
- Should have good posture
- At end of readiness period is free from all correctible physical handicaps
- Dresses self except in such operations as tying bows
- Recognizes color
- Has adequate ability to see and hear
- Enjoys spontaneous dramatic play; wants properties such as pocket books and housekeeping equipment with which to play
- Reveals much about his personality in dramatic play
- Is usually happy and cheerful
- Is friendly and enjoys sharing experiences with others
- Seems to enjoy school life
- Shares and takes turns when given an opportunity
- Is pleased with success
- Uses simple forms of courteous speech
- *Is not easily annoyed
- Uses large muscles in vigorous physical exercise; exhibits little skill in the use of fine muscles
- Uses manipulative tools in construction; puts together puzzles up to twelve pieces; makes recognizable objects
- Uses paint brush, hammer or mallet; strings beads; works with clay; rolls a ball through a confined area; begins to put together puzzles of a few pieces
- Builds three-dimensional structure with blocks
- Enjoys repetitious activities

Speaking

- Knows his first name and his last name
- Relates experiences in simple terms with few details
- Contributes anecdotes from his own experiences
- Shows little exchange in conversation with others
- Asks questions about new things
- Reports incidents in limited detail
- Has the initial concept of the telephone
- Enumerates objects within a picture
- Tells story content of the picture
- Talks freely about details in picture
- Expresses single idea in thought unit

*Items that have been starred designate skills common at this level but not necessarily essential. The teacher need not set up activities to teach them.

SKILL SEQUENCES IN LANGUAGE ARTS (Cont'd)

Readiness Level: Mental Age Below 6.6

- Speaking (Cont'd)**
- Enjoys practicing new words and combining actions with words
 - Attempts to reproduce rhymes
 - Has ability to associate objects with pictures
 - Has ability to associate directional concepts with words as "up", "down"
 - Has ability to associate objects with words
 - Uses infantile expressions, as "Me do this"
 - Draws illustrations to express his ideas
 - May articulate with difficulty
 - Knows his address
 - Knows his age
- Listening**
- Listens attentively to short stories that are dramatically presented or illustrated with models and pictures
 - Listens attentively to short stories told and retold by adults
 - Enjoys hearing stories of animals and nature with personification and repetition
 - Enjoys listening to jingles
 - Gains an acquaintance with nursery rhymes, poems and stories for children
 - Listens to records and radio programs when stories are being told, and to sound films if they are suited to his level
 - Executes simple requests as "Open the door"
 - Has ability to follow oral directions
 - Puts together things that are similar in one respect
 - Classifies objects in terms of the use made of these objects
 - Experiments to find the properties of clay and other materials
 - Brings objects together that are useful in concrete situations
- Reading**
- Shows a desire to look at pictures, books, and bulletin boards
 - Looks at pictures in books
 - Recognizes the differences between story telling and reading
 - Enjoys stories told by sequence of pictures
 - Asks what sentences or statements on the blackboard say
 - Points to words under pictures and says "What does that say?"
 - Matches pictures and colors
 - Is alert and willing to cooperate in interesting reading activities
 - Shows interest in signs as a means of conveying meaning;
 - Keep Off the Grass; Lost and Found; Wet Paint
 - Indicates parts missing from incomplete pictures
 - Recognizes directional words, such as cut, paste, draw, color.

*Items that have been starred designate skills common at this level but not necessarily essential. The teacher need not set up activities to teach them.

SKILL SEQUENCES IN LANGUAGE ARTS (Cont'd)

Readiness Level: Mental Age Below 6.6

Reading (Cont'd)

Recognizes likenesses and differences in forms, objects, and pictures when the differences are very marked
Recognizes likenesses and marked differences in words
Recognizes marked differences in numbers and letters of the alphabet as well as in pictures, forms and objects
Associates certain words with objects and pictures of objects when they apply to personal experiences
Has ability to hear rhyming words
*Calls attention to noises and sounds in the environment
Plays with sounds
*May experience the following difficulties with speech: substitute f for final th, t for k, d for g; may have trouble with sibilants (s, z, sh, ch, j) and any two or three consonant combinations (fl, pl, pr, st, str).
Identifies books by their covers
Asks to take books and bring some to school
Recognizes that books contain material to be read
Reads parts of experience charts and charts of class duties
Reads labels in functional situations as scissors, crayons
Can move eyes from left to right on a line of print
Turns pages of a book carefully
Shows evidence of readiness for reading as measured by informal and standardized reading readiness tests at the close of the period

Writing

Acquires readiness and a desire for writing; develops sentence sense by observing the teacher write what is dictated
Grasps a pencil or crayon in the palm of the hand and scribbles
May desire to imitate adults who write
May print name in large capital letters
Likes to copy simple forms
Shows improvement in eye-hand coordination

Resources for Communication

Looks at picture books and notes details
Selects stories and songs he wants from books familiar to him
Engages adults to read to him, to tell stories, and to describes pictures and situations
Asks questions of adults to obtain information
Has ability to color, draw, cut, and paste
*Shows tendencies to dawdle in using materials
Enjoys motion pictures
Enjoys radio programs with music and dramatic content
Listens to radio, phonograph, and sound films if music and speaking voices have an appeal for him
Locates stations on the radio by chance dialing
Uses class library to find familiar books

Items that have been starred designate skills common at this level but not necessarily essential. The teacher need not set up activities to teach them.

SKILL SEQUENCES IN LANGUAGE ARTS

First Grade Level: Mental Age 6.6 - 7.5

Personal-Social (see also Language Arts Bulletin #121 pp. 3-11 incl.)

Likes to work and play with others
Can work independently
Plays in easy competitive games
Works cooperatively in groups with adult guidance
Participates with a group of children in dramatic play
Entertains at a party in the classroom
Is interested in situations, problems, and questions that have dramatic content
Assumes his share of responsibility
Seeks group approbation
Can work and play with others observing simple social niceties
May be unusually cautious; may worry
Uses large muscles in work and play activities
Works to make things with which to satisfy play needs

Speaking

Articulates fairly well
Shares ideas freely
Contributes to discussion
Carries on courteous conversation over telephone
Relates experiences narrating, describing
Reports incidents in limited detail
Composes short compositions cooperatively (1 or 2 sentences).
Begins to keep to one topic when speaking
Uses sentence structure
Answers questions clearly
Reproduces simple rhymes, songs, and short poems from memory
Associates pictures with words
Associates words with location concepts as "over", "under"
Speaks in sentences
Uses verbs correctly, as "is not" for "ain't"

Listening

Listens to stories with purpose of retelling them
Distinguishes right from left
Distinguishes morning from afternoon
Follows a longer direction
Follows simple directions independently
Shifts from one grouping principle to another in classifying objects (may group first for form and later for color, etc.)

Reading

Shows interest in learning to read from books
Enjoys reading during class periods
Associates pictures with words
Associates words with ideas
Associates number words with numbers
Recognizes at sight a wide range of words (20-50 words)
Vocabulary and Comprehension
Refers to pictures for clues to unrecognized words
Notes configuration of new words
Detects words that begin with the same sound (skill in accurate visual and auditory discrimination)

SKILL SEQUENCES IN LANGUAGE ARTS (Cont'd)

First Grade Level: Mental Age 6.6 - 7.5

Reading (Cont'd)	<ul style="list-style-type: none">Has ability to hear beginning wordsRecognizes marked differences in phrases and sentencesReads signs and labelsReads street signs in the neighborhoodFollows simple directionsRead various announcements on bulletin board, summaries of group experience and other types of material used in the classroomReads with understanding a limited amount of materials related to social skill areas (level of social maturity)Reads stories which had previously been dictated to the teacher by the groupReads books made by individuals, groups, and class as a wholeFinds page numbersHas skill in reading from left to right; top to bottomHas eliminated tendency to reversalsDoes not use unnecessary head movementUses a minimum of finger-pointingHandles books with careReads aloud in phrase unitsReads easilyCompares the activities of story characters with his own experiencesDraws pictures to tell a storyCompletes sentence by drawing a pictureReads <u>aloud</u> many pre-primers and primers with comprehension; with a minimum of vocalization, finger-pointing, and head movementsReads <u>silently</u> materials up to first grade difficulty with comprehension
Writing	<ul style="list-style-type: none">Copies labels and signsUses telling and asking sentencesCapitalizes the first word in a sentenceCapitalizes ICapitalizes datesCapitalizes name of mother and fatherPrints or writes name using capital and small lettersWrite with quality rated as "80" in the Ayres Handwriting Scale (Rochester program)Is learning to spell words that he needs to write
Resources for Communication	<ul style="list-style-type: none">Engages in simple research involving the use of picturesGives daily bulletins or records work of dayHas difficulty in choosing between two alternatives; needs assistance in making decisionsCarries simple activities through to a conclusionEnjoys radio programs offering dramatizations of fairy tales, brief stories and songsBegins to locate radio stations by stations' lettersPlays phonograph records for himselfFinds title and author of a bookUses a simple picture dictionaryFinds words in books and illustrations for words

SKILLS SEQUENCES IN LANGUAGE ARTS

Second Grade Level: Mental Age 7.6 - 8.5

Personal-Social
(See also
Language Arts
Bulletin #121
pp. 3-11 incl.)

Likes to assume responsibility in school activity
Is tending to formalize modes of expression in play
Introduces items as reading materials in play activities
Adheres to group-made rules; shows a sense of standards
Uses informal social courtesies without pressure from adults
Serves as host or hostess to visitors entering room
Shows more stability; Finds it easier to live with self
Uses smaller muscles in work and play activities
Uses a variety of shop tools in free expression

Speaking

Discusses stories and informational material with others
Uses an audible voice in an audience situation
Uses the present and past tense of verbs such as come-came, and pointing to words such as these-those
Uses correctly the pronoun I
Uses words to indicate ideas
Has ability to remember and recall
Makes simple requests
Dramatizes situations
Begins to arrange events in sequence
Expresses simple sentences on the curriculum
Composes short compositions cooperatively (2 or more sentences)
Takes message correctly over the telephone
Responds courteously to requests over the telephone
Enjoys group projects which require cooperative problem-solving
Considers points of view held by others

Listening

Listens to others in group situations and participates in answering to a point
Executes two simple requests simultaneously
Has ability to classify objects for a concrete purpose

Reading

Finds clippings, pictures, and other information to bring to school to place on the bulletin board
Reads with interest to find answers to questions
Shows ability to determine suitability of material
Follows sequence of pictures
Locates and selects specific picture details
Has ability to make contextual associations
Utilizes context clues
Shows definite progress in attacking new words
Recognizes slight as well as marked differences in word forms
Recognizes at sight a wide range of words (75-84); Second Grade Vocabulary and Comprehension
Recognizes known parts of compound words
Recognizes street signs

SKILL SEQUENCES IN LANGUAGE ARTS (cont'd)

Second Grade Level: Mental Age 7.6 -- 8.5

- Reading (cont'd)
- Reads safety notices; recognizes shop signs
 - Shows ability to hear and see basic words in derived forms
 - Shows ability to recognize and relate the sound and form of initial consonants b c d f g h i k l m n p r s t th w wh
 - Shows ability to recognize d l m n s t when occurring in a final position in words
 - Learns that a word may have more than one meaning
 - Utilizes simple types of independent word analysis
 - Reads simple informational material with understanding of its content (i.e. story in reader)
 - Reads simple directions in his environment
 - Reads material for general information
 - Reads simple materials related to other curriculum areas
 - Reads and interprets a variety of materials related to social skill area (level of social maturity)
 - Holds the book properly for ease of reading
 - Moves eyes easily from end of one line to beginning of next
 - Reads silently without lip movement
 - Finds motives for the speech and actions of story characters
 - Reveals a clear recognition of thought units in oral reading
 - Makes use of periods, quotation marks, and question marks as aids to good oral interpretation
 - Reads aloud fluently previously studied simple materials showing a clear interpretation of what the characters say and do
 - Reads aloud previously prepared first grade material with ease and fluency at the rate of 20-30 words per minute*
 - Has ability to remember and recall
 - Reads silently materials of pre-primer, primer, first grade, and second grade difficulty with comprehension
 - Can check his comprehension by use of simple objective test; Yes-No; Completion
- Writing
- Writes simple diaries and notes with good format, indentation, margin
 - Copies accurately words and sentences as he needs them
 - Copies accurately two or three sentences cooperatively composed by the group
 - Capitalizes proper names that he has occasion to write
 - Uses a question mark after asking sentences
 - Uses periods after telling sentences
 - Is learning to write all letters of alphabet
 - Writes on line with letters clearly formed
 - Writes regular size
 - Writes with quality rated as "80" in the Ayres Handwriting Scale
 - Asks for correct spelling of words when needed
 - Learns 5 to 7 new spelling words a week

*Curriculum for Special Education. Book I Teacher Guide, Board of Education, Rochester, N. Y., 1942.

SKILL SEQUENCE IN LANGUAGE ARTS (cont'd)

Second Grade Level: Mental Age 7.6 - 8.5

Resources for
Communication

Uses class library to find familiar books to read and
enjoy
Goes to public library for study hour
Knows letters of the alphabet
Uses table of contents to find names of stories and page
numbers
Recognizes title of book and author's name.

SKILL SEQUENCE IN LANGUAGE ARTS

Third Grade Level: Mental Age 8.6 - 9.5

Personal-Social
(See also
Language Arts
Bulletin #121
pp. 3-4; 12-15
Incl.)

Likes to assume responsibility in family living
Is aware of family relationships
Plays cooperatively in groups without adult guidance
Seeks approval of other children as well as adults
Observes and practices more formal social procedures in group relationships
Is aware of obvious inadequacies
Begins to use fine muscles in work and play
Is more skillful in the use of shop tools with more emphasis on correct technique

Speaking

Participates in discussion
Requests specific information over the telephone
Expresses himself in three well-defined sentences
Uses sentence structure that roughly approximates that of adults
Reports on work to be done
Has ability to report on observed activity
Has ability to interpret visual aids
Has ability to construct definitions
Has ability to understand differences between two ideas
Uses correctly good and well
Uses correctly words that mean more and most
Articulates all sounds clearly

Listening

*May experience difficulty in remembering
Has ability to fit materials to meet certain needs
Has ability to reject materials irrelevant to certain needs
Has ability to remember an oral direction
Brings facts together in terms of some general category
Classifies objects
Classifies facts

Reading

Is interested in juvenile fiction
Is interested in imaginative stories
Reads newspaper for want ads and advertisements
Reads time tables
Reads menus, shopping lists
Can find known words in unknown words
Is able to read important items on admission tickets
Has ability to understand simple printed directions
Can recognize words rapidly in thought units
Can match words with words, sentences with sentences
Shows independence in attacking new words
Recognizes at sight a wide range of words, Third Grade Vocabulary and Comprehension
Has ability to recognize the sound and form of word variance when adding: s, ed, ing, to sight words

*Items that have been starred designate skills common at this level but not necessarily essential. The teacher need not set up activities to teach them.

SKILL SEQUENCES IN LANGUAGE ARTS (cont'd.)

Third Grade Level: Mental Age 8.6 - 9.5

Reading (cont'd)

Has ability to see, hear, and say initial consonant blends:
ch, sh, th, wh, bl, cl, fl, pl, sl, br, cr, dr, fr, gr,
tr, st, sm, sn, sp, sw
Builds new words by adding re, un, dis to known words
Has skill in rapid recognition of word families
Learns that two different words may have the same meaning
Selects from a given list words that have opposite meanings
Reads to answer specific questions
Reads part of a story to prove or disprove a point
Reads to get factual information
Reads and interprets a variety of materials related to
social skill areas (levels of social maturity) such
as application blanks, ballots, social security blanks,
and other forms
Reads silently with no lip movements
Reads silently with no pointing
Reads aloud to class short stories and reports
Reads aloud previously prepared second grade material with
ease and fluency at the rate of 50-80 words per minute
Reads silently materials that compare in difficulty with
first, second and third grade readers with comprehension,
at approximately 140 words per minute

Writing

Writes post cards
Writes simple passages cooperatively developed
Can construct a good beginning sentence
Expresses thoughts in complete sentences, avoiding excessive
use of and, so, then
Shows some independence in creating simple sentences
Capitalizes titles of persons
Capitalizes teacher's names
Capitalizes names of days
Capitalizes names of months
Capitalizes salutation of a letter
Capitalizes the first word of the closing of letter
Capitalizes holidays
Uses comma in series of words
Uses comma after the close of a letter
Uses comma after salutation of a letter
Uses comma in recording dates
Uses period following abbreviations
Uses period after initials
Uses comma to separate a city and state
Begins to use a pen
Writes names, addresses, etc. in designated small spaces
on form
Writes with quality rated as "80" in the Ayrea Handwriting Scale
Spells with accuracy words needed for use in written work
Learns 5 to 7 new spelling words a week

SKILL SEQUENCES IN LANGUAGE ARTS (Cont'd)

Third Grade Level: Mental Age 8.6 - 9.5

Resources for Communication

Brings books to school from the public library
Borrows books from school library
Uses dictionary
Uses telephone book (classified)
Uses newspapers to discover which radio programs are available
Uses newspapers to discover which amusements are available
Uses newspapers to locate radio programs
Uses newspapers to locate special features
Uses newspapers to locate weather reports
Uses table of contents, unit and chapter titles
Keeps individual record of what he has read

SKILL SEQUENCES IN LANGUAGE ARTS

Fourth Grade Level: Mental Age 9.6 - 10.5

Personal-Social (See also Language Arts Bulletin #121, pp. 3-4; 12-15 Incl.)	Likes to work on real jobs Enjoys competitive play in shifting groups Plays games, observing rules and regulations Evaluates himself as a contributing member of society Is more keenly conscious of shortcomings Has control of fine as well as large muscles Puts background and design into drawings Attempts to organize his products to show relationships
Speaking	Discusses experience of groups or individuals Has the ability to express himself in four well-defined sentences Expresses his own opinions Has ability to report on current affairs Has ability to note details in visual aids Uses correctly verbs agreeing with subject Eliminates slang in own speech Has eliminated common foreignisms and colloquialisms from daily speech Uses a pleasing voice Gives meanings in descriptive terms
Listening	Participates in oral reading situations as listener and reader Executes several simple requests given simultaneously (2 or more) Notices relationships among: objects, situations, and ideas Organizes thoughts around a central idea Sees similarities between self and others of different background
Reading	Is interested in more advance juvenile fiction Is interested in adventure stories Reads recipes Makes use of prefixes, suffixes, and roots in deriving meanings of words Recognizes at sight a wide range of words, Fourth Grade Vocabulary and Comprehension Can use phonetic analysis in attacking new words in context Has ability to see, hear, and say initial consonant blends: <u>str</u> <u>scr</u> <u>thr</u> <u>wr</u> Has ability to build compound words Has ability to analyze compound words Reads and interprets a variety of materials related to social skill areas (level of social maturity) Can read for specific detail Participates with enjoyment in oral reading situations as listener and as reader Reads <u>aloud</u> materials of third grade and below, with ease, understanding and enjoyment, at the rate of 70-80 words per minute

SKILL SEQUENCES IN LANGUAGE ARTS (Cont'd)

Fourth Grade Level: Mental Age 9.6 - 10.5

Reading (Cont'd)	Reads <u>silently</u> materials that compare in difficulty with second, third, and fourth grade readers with comprehension, at approximately 160 words per minute (Gates)*
Writing	Composes a business letter Writes simple compositions cooperatively developed Can correct run-on sentences Corrects fragmentary parts of sentences Capitalizes: points of the compass, first words in informal outlines, titles of persons Capitalizes certain abbreviations Uses colon after the salutation in a business letter Uses comma after a word of address Has ability to change singular to plural forms Can understand synonyms Can understand contractions Writes with quality rated as "80" in the Ayres Handwriting Scale Spells with a high degree of accuracy words needed for use in written work Learns 5 to 7 new spelling words per week
Resources for Communication	Takes notes in a simple informal way Makes lists of stories on different topics Can use a road or street map Uses catalogues Uses a book card in borrowing books Uses telephone book (residential) Uses glossary Knows letters of the alphabet in order Uses newspapers to discover job possibilities Uses newspapers to read about special events Reads children's newspapers Reads children's magazines Uses an index to find topics in a book Keeps individual reading record: author; title; interesting event; and specific detail

*Work-play Books, Fourth Grade Manual, Gates-Ayres, P.212

SKILL SEQUENCES IN LANGUAGE ARTS

Fifth Grade Level and Above: Mental Age: 10.6 and Over

Personal-Social
(See also
Language Arts
Bulletin #121,
pp. 3-4; 16-20
Incl.)

Organizes play groups
Establishes himself within his own sex group
Is aware of his own role in group play
Evaluates himself as a contributing member of society
Makes effort to compensate for inadequacies
Attains nearly adult levels in powers of coordinating hand and eye in manipulative skill
Shows appreciation of practical arts and appreciates honest standards of workmanship

Speaking

Carries on and contributes to discussion without tending to introduce new topics
Has skill in expressing control thought of a paragraph
Discusses simple current affairs with understanding
Gives oral committee reports, and individual reports
Uses words as tools for self-expression
Uses visual aids for interpreting meanings
Uses correctly: past participles of verbs, as written, grown, known, thrown, spoken, chosen, drunk, sung, and ridden
Uses correctly: pronouns me, him, her, us, and them
Uses singular and plural subjects, making change in verb and pronoun
Hears whether speech of others is correct
Has an easy, clear, relaxed voice

Listening

Takes into account a number of factors in arriving at generalizations, and applies them to new situations
Listens to oral information with a view to remembering important facts
Shows ability to retain more than one idea

Reading

Is interested in juvenile fiction of adventure and mystery, stories of interesting characters, home life, child life, and of how to do things
Has ability to identify words that are alike in form but different in pronunciation and meanings: "close the door"; "Follow close behind".
Has ability to divide words into syllables
Recognizes word variants formed by adding the prefixes un, dis, or re
Recognizes word variants formed by adding suffixes ful, er, est, ly, ish, and en
Can predict outcomes
Reads in other curriculum areas
Reads and interprets a variety of materials related to social skill areas (level of social maturity)
Grows in ability to command the attention and respect of his audience
Reads aloud materials of fourth grade and below with ease, understanding and enjoyment, at the rate of 80-90 words per minute

SKILL SEQUENCES IN LANGUAGE ARTS (Cont'd)

Fifth Grade Level and Above: Mental Age: 10.6 and Over

Reading (Cont'd)

Reads silently materials that compare in difficulty with fifth grade readers with comprehension, at approximately 180 words per minute. (Gates)

Writing

Writes interesting letters on experiences in school, out-of-school, on the job
Writes stories, letters, and diaries
Has ability to write a summary
Develops paragraphs; indents; keeps facts in order
Has ability to vary sentence structure
Capitalizes correctly in writing business and social letters and reports
Capitalizes titles prefixed to proper names
Punctuates properly: apostrophe in contractions and possessives
Punctuates correctly: colon to separate hours and minutes
Punctuates properly: comma in series, after yes and no
Has ability to understand homonyms
Has ability to understand antonyms
Writes with quality rated as "80" in the Ayres Handwriting Scale
Spells accurately in all written work
Learns 5 to 7 new spelling words a week
Consults dictionary for correct spelling of needed words

Sources for Communication

Uses card catalogue: subject cards, author cards, title cards
Has increased skill in the use of books and of the library
Uses glossary, dictionary, telephone book and catalogues
Uses dictionary in greater detail
Uses catalogues, magazines, newspapers, and other sources to find current programs, events of interest, and specific information
Selects topics for further study
Uses an index independently
Keeps record of own reading growth

INSTRUCTIONAL PROCEDURES

Bulletin No. 126, September, 1954, Montgomery County Guide for Teachers of Mentally Retarded Children, Secondary Level, offers additional help to teachers.

	Pages
1. <u>A Developmental Reading Program</u> -----	146-148
2. <u>Grouping</u> -----	144-145
3. <u>Directed Reading Activity</u> -----	149-150
4. <u>Improvement of Oral Reading</u> -----	152-154
5. <u>Developing Meaning Vocabulary</u> -----	153
6. <u>Corrective Reading for Slow Learners</u> -----	162-175
7. <u>Remedial Reading</u> -----	176-179
8. <u>Controlled Vocabulary Lists for Primary Grades</u> (Appendix)	196
9. <u>Professional Bibliography</u> ----- (Appendix)	225

The Language Arts Course of Study for the Elementary Grades of Montgomery County offers further suggestions for teaching procedures in the language arts field.

ARITHMETIC

Point of View

In every class of slow learning children there will be a wide range of the developmental growth patterns and in the experiential backgrounds of the children.

Children who are mentally retarded or brain-injured must be taught arithmetic in concrete learning situations which provide a meaningful approach to numbers. As in reading, a developmental program of arithmetic instruction should be used with these children.

Suggestions for the Use of the Arithmetic Skill Sequences.

It is suggested that arithmetic skills be developed in correlation with the social studies units which provide the bases for instruction in this course of study.

The following Skill Sequences in Arithmetic were developed in New York City by a committee in the department of Children with Retarded Mental Development. The skills have been arranged under headings which show their relationships, in sequential order, according to those which may be learned at a given mental age.

The skill sequence should be used as a continuing record of the progress of each child, serving as a means of evaluating that progress and a basis for planning the next steps in the child's arithmetic program.

Teachers are referred to the Montgomery County Bulletin No. 135, Elementary Mathematics Course of Study: Kindergarten - Grade Six, for additional help on teaching procedures.

SKILL SEQUENCES IN ARITHMETIC

M. A. - Under 7

SIZE AND CONTOUR - VOCABULARY

- *P. 1 Concept of big and little relationship
P. 2 Concept of tall and short relationship
P. 3 Concept of thick and thin relationship
P. 4 Concept of narrow and wide relationship
P. 5 Concept of round and square
P. 6 Concept of circle-circles
P. 7 Concept of curved and straight relationship

LENGTH AND DISTANCE - VOCABULARY

- P.10 Concept of boxful
P.11 Concept of jarful
P.12 Concept of empty and full relationship
P.13 Concept of cupful and glassful
P.14 Concept of spoonful
P.15 Concept of teaspoonful
P.16 Concept of tablespoonful
P.17 Concept of handful

TERMS OF AMOUNT

- *P.18 Concept of all and some
P.19 Concept of many
P.20 Concept of whole and part relationship
P.21 Concept of each
P.22 Concept of more or less relationship
P.23 Concept of pair
P.24 Concept of few and many
P.25 Concept of one-half of a single object
P.26 Concept of less than and more than and relationship
P.27 Concept of none

COMPARISON - VOCABULARY

- P.28 Concept of heavy and light relationship
P.29 Concept of faster and slower relationship

- P. 30 Concept of fastest and slowest relationship
P. 31 Concept of fast, faster and fastest
P. 32 Concept of taller and shorter and relationship
P. 33 Concept of more and most
P. 34 Concept of tallest and shortest
P. 35 Concept of tall, taller and tallest
P. 36 Concept of short, shorter, and shortest
P. 37 Concept of higher and lower and relationship
P. 38 Concept of highest and lowest relationship
P. 39 Concept of biggest and smallest
P. 40 Concept of bigger and biggest
P. 41 Concept of large, larger, largest
P. 42 Concept of small, smaller, smallest

LOCATION AND PLACE

- P. 43 Concept of up and down and relationship
P. 44 Concept of in and out and relationship
P. 45 Concept of on and off and relationship
P. 46 Concept of front and back and relationship
P. 47 Concept of beginning and end and relationship
P. 48 Concept of before and after and relationship
P. 49 Concept of high and low relationship
P. 50 Concept of left and right and relationship
P. 51 Concept of under and over and relationship
P. 52 Concept of heavy and light and relationship
P. 53 Concept of next

*P - Preparatory - facts, concepts, and skills taught prior to material presented at mental age 7.

LOCATION AND PLACE (Cont.)

- P.54 Concept of close, closer
- P.55 Concept of middle
- P.56 Concept of above and below
- P.57 Concept of top and bottom

TIME AND SEASONS - VOCABULARY

- P.58 Concept of early and late and relationship
- P.59 Concept of fast and slow and relationship
- P.60 Concept of on time
- P.61 Concept of night and day
- P.62 Concept of morning and after noon
- P.63 Concept of noon
- P.64 Concept of time-day, week ago
- P.65 Concept of winter and summer
- P.66 Concept of quickly and slowly relationship
- P.67 Concept of faster and slower and relationship
- P.68 Ability to associate time with important daily events
- P.69 Ability to tell time of important daily events
- P.70 Ability to tell one's age to the year
- P.71 Ability to tell birth date
- P.72 Concept of the words: clock, hour, and o'clock
- P.73 Recognition of the holidays in the calendar year - as they arise
- P.74 Concept of late, later, latest
- P.75 Concept of early, earlier, and earliest

MONEY AND MONEY TERMS

- P.76 Concept of one cent
- P.77 Concept of money through five pennies
- P.78 Ability to understand values through five cents
- P.79 Concept of a nickel
- P.80 Understanding the value of a nickel or its equivalent
- P.81 Relationship of a nickel or five pennies
- P.82 Ability to make change of a nickel when a purchase of 1, 2, 3 or 4 cents is made

- P.83 Understanding the value of 6 cents

- (a) 6 pennies
- (b) nickel and 1¢

- P.84 Understanding value of 7 cents

- (a) 7 pennies
- (b) nickel and 2 pennies

- P.85 Understanding value of 8 cents

- (a) 8 pennies
- (b) nickel and three pennies

- P.86 Understanding value of 9 cents

- (a) 9 pennies
- (b) nickel and 4 pennies

- P.87 Concept of a dime

- P.88 Relationship of a dime to its equivalents - 10 pennies or 2 nickels or 1 nickel and 5 pennies

- P.89 Understanding of money values through 10 cents

- P.90 Ability to make change of a dime with pennies and/or nickels

VOCABULARY OF TACTILE SENSATIONS

- P.91 Concept of hot and cold and relationship
- P.92 Concept of warm and cool and relationship
- P.93 Concept of painful
- P.94 Concept of smooth and rough

NUMBERS

Arithmetical terms

Addition

- P.95 Concept of add to
- P.96 Concept of add, in, all, all together

Subtraction

- P.97 Concept of take away from
- Number manipulation
- P.98 Concept of one to one correspondence
- P.99 Concepts of numbers from one through five

Numbers cont.

- P.100 Ability to count article
or objects to five
- P.101 Ability to rote count
to five
- P.102 Ability to add and subtract
with objects:
2 and 2 2 from 4
- P.103 Ability to add and subtract with
objects:
2 and 1 1 and 2
2 from 3 1 from 3
- P.104 Ability to add and subtract with
objects:
1 and 1 1 from 2
- P.105 Ability to add and subtract with
objects:
3 and 1 3 from 4
1 and 3 1 from 4
- P.106 Ability to add and subtract with
objects:
4 and 1 4 from 5
1 and 4 1 from 5
- P.107 Ability to count articles or
objects to 10
- P.108 Ability to do rote counting to 10

Grouping

- P.109 Concept of group of objects
- P.110 Ability to recognize the size of
small groups, up to 5, without
counting
- P.111 Recognition of grouping of two
groups of 2 objects as basis for
later concepts in multiplication
and division
- P.112 Concept of one-half of a group of
four objects

M. A. - 7.0 - 8.0

LENGTH AND DISTANCE

7. 1 Ability to recognize a
ruler as a means of
measuring
7. 2 Concept of height
7. 3 Concept of width
7. 4 Concept of foot
7. 5 Ability to use ruler as a
measuring device to
measure inches
7. 6 Concept of yard
7. 7 Ability to use ruler in
measuring yard
7. 8 Use of yardstick
7. 9 Concept of inch
7. 10 Concept of six inches

OTHER MEASUREMENTS

7. 11 Concept of quart and pint
7. 12 Concept of two-quarts
(two quart bottles of milk)
7. 13 Concept of dozen
7. 14 Concept of half-dozen

AMOUNT

7. 15 Concept of several
7. 16 Meaning of one-half of single
objects
7. 17 Meaning of one-half of a group
of 6 objects
7. 18 Meaning of a quarter of single
objects
7. 19 Meaning of one-half and one-
fourth of a group of 8
objects
7. 20 Concept of couple

Amount cont.

- 7. 21 Meaning of one-half of a group of 10 objects
- 7. 22 Meaning of one-half and one-fourth of a group of 12 objects

TERMS OF COMPARISON

- 7. 23 Concept of the same as
- 7. 24 Concept of expensive and cheap

TIME AND SEASONS

- 7. 25 Calendar:
 - a. Concept of the week
 - b. Concept of school week
 - c. Concept of week being composed of seven days
- 7. 26 Concept of spring and fall
- 7. 27 Ability to name and recognize names of the days of the week
- 7. 28 Knowledge of winter months, spring months, summer months, fall months
- 7. 29 Ability to read the day of the month
- 7. 30 Ability to tell time by the hour
- 7. 31 Ability to tell time by the hour half-hour
- 7. 32 Ability to tell the day of the month
- 7. 33 Ability to recognize sequences of days of the week

Sunday	1st	Thursday	5th
Monday	2nd	Friday	6th
Tuesday	3rd	Saturday	7th
Wednesday	4th		
- 7. 34 Ability to tell the number of months in a year
- 7. 35 Ability to tell the names of all the months of the year in sequence
- 7. 36 Calendar:
 - a. Ability to tell the name of the current month
 - b. Tell name of last month
 - c. Tell the name of next month
- 7. 37 Understanding money value through 20 cents
- 7. 38 Understanding the money value of 25 cents
- 7. 39 Understanding money values through 30 cents
- 7. 40 Relationship of 100 pennies to a dollar
- 7. 41 Concept of allowance
- 7. 42 Concept of fare
- 7. 43 Ability to identify and write money & symbol through 99¢
- 7. 44 Meaning of & sign

NUMBERS

Arithmetical terms

- 7. 45 Meaning of subtract
- 7. 46 Meaning of fact (concept)

Number manipulation

- 7. 47 Ability to add and subtract with objects:

3 and 2	3 from 5
2 and 3	2 from 5
- 7. 48 Ability to add and subtract with objects:

3 and 3	3 from 6
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- 7. 49 Ability to add and subtract with objects:

5 and 1	5 from 6
1 and 5	1 from 6
- 7. 50 Ability to add and subtract with objects:

4 and 2	4 from 6
2 and 4	2 from 6
- 7. 51 Ability to add and subtract with objects:

4 and 4	4 from 8
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- 7. 52 Ability to count through 100
- 7. 53 Ability to count by 2's through 30
- 7. 54 Ability to count by 5's through 100
- 7. 55 Ability to add and subtract with objects
- 7. 56 Ability to count by 10's through 100
- 7. 57 Ability to add and subtract with objects:

6 and 1	6 from 7
1 and 6	1 from 7
- 7. 58 Ability to add and subtract with objects:

4 and 3	4 from 7
3 and 4	3 from 7
- 7. 59 Ability to add and subtract with objects:

8 and 2	8 from 10
2 and 8	2 from 10
- 7. 60 Ability to add and subtract with objects:

5 and 2	5 from 7
2 and 5	2 from 7
- 7. 61 Ability to add and subtract with objects:

8 and 1	8 from 9
1 and 8	1 from 9
- 7. 62 Ability to add and subtract with objects:

5 and 3	5 from 8
3 and 5	3 from 8

Numbers cont.

7. 63 Ability to add and subtract with objects:
9 and 1 9 from 10
1 and 9 1 from 10
7. 64 Ability to add and subtract with objects:
7 and 2 7 from 9
2 and 7 2 from 9
7. 65 Ability to add and subtract with objects:
6 and 3 6 from 9
3 and 6 3 from 9
7. 66 Ability to add and subtract with objects:
5 and 4 4 from 9
4 and 5 5 from 9
7. 67 Ability to add and subtract with objects:
7 and 3 7 from 10
3 and 7 3 from 10
7. 68 Ability to add and subtract with objects:
6 and 4 6 from 10
4 and 6 4 from 10
7. 69 Ability to write two two-place numbers in a column from dictation

Symbols

7. 70 Ability to recognize symbols as related to objects up to five
7. 71 Ability to recognize symbols as related to objects up to nine
7. 72 Ability to read number symbols through nine
7. 73 Ability to write number symbols 1, 4, 7, 9
7. 74 Ability to write number symbols 2, 3, 5, 6, 8
7. 75 Ability to read number through 19
7. 76 Ability to write the number symbols through 20
7. 77 Ability to read numbers through 30
7. 78 Ability to write the number symbols through 30
7. 79 Ability to read numbers through 100 emphasizing decades, 40, 50, 60, 70, 80, 90
7. 80 Ability to make and use the algorithms for subtraction and addition: - 4

Ordinal numbers

7. 81 Concept of Ordinal numbers
7. 82 Ability to use ordinal numbers through tenth
7. 83 Ability to use ordinal numbers with calendar

Addition

7. 84 Mastery of the addition combination and their reverses:
2 2 1 3 4 3 3 5 4 4 5 6 4
2 1 1 1 1 2 2 1 2 4 5 1 2

7 5 8 6 5 9 7 6 8 5 7 6
1 2 1 2 3 1 2 3 2 4 3 4

7. 85 Ability to add two-place numbers with sums not to exceed 99
7. 86 Ability to add two addends of unequal length without carrying

Subtraction

7. 87 Mastery of subtraction combinations:

4 3 3 2 4 4 5 5 5 5 6 6 6 6 6
2 2 1 1 3 1 4 1 3 2 3 2 1 4 2

8 10 7 7 7 7 7 8 8 7 7 9 9 8 8
4 5 6 1 4 2 7 1 7 2 2 8 1 6 2

8 8 10 10 10 9 9 9 9 10 10 10
5 3 9 1 2 7 2 6 2 8 6 4

7. 88 Ability to subtract a 2-place number with minuend not exceeding 99

Grouping

7. 89 Ability to group 6 objects into two groups of 3 each
7. 90 Ability to group 8 objects into two groups of 4 each
7. 91 Ability to group 10 objects into two groups of 5 each
7. 92 Ability to group 9 objects into three groups of 3 each
7. 93 Ability to group 10 objects into one group of 10
two groups of 10
three groups of 10
7. 94 Ability to group 12 objects into four groups of 3 each
three groups of 4 each

COMMERCIAL TERMS

POSTAL TERMS

- 7.94 Concept of Postal Terms
a. stamp
b. special delivery
c. air mail, etc.

LENGTH AND DISTANCE

- 8. 1 Concept of one-half of an inch
- 8. 2 Concept of quarter inch

OTHER MEASUREMENTS

- 8. 3 Concept of gallon
- 8. 4 Concept of pound
- 8. 5 Concept of half-gallon
- 8. 6 Concept of half-pound
- 8. 7 Concept of quarter pound
- 8. 8 Concept of eight of pound
- 8. 9 Concept of two, three, four, five, ten pounds
- 8. 10 Relationship of half-gallon to gallon
- 8. 11 Relationship of four quarts to a gallon
- 8. 12 Relationship of two quarts to a half-gallon

AMOUNT

- 8. 13 Meaning of one-third of single objects
- 8. 14 Meaning of one-third of groups of 6, 9, and 12 objects
- 8. 15 Meaning of one-half of a group of 14 objects
- 8. 16 Meaning of one-third of 15 objects
- 8. 17 Meaning of one-half and one-fourth of group of 16 objects
- 8. 18 Meaning of one-half and one-third of a group of 18 objects
- 8. 19 Meaning of one-half of a two place number, no "carrying"
- 8. 20 Meaning of one-half through 20
- 8. 21 Meaning of one-half through 15
- 8. 22 Meaning of one-fourth through 20

TIME AND SEASONS

- 8. 23 Concept of A.M.
- 8. 24 Concept of P.M.
- 8. 25 Concept of midnight
- 8. 26 Concept of 24 hours in a day
- 8. 27 Ability to tell the name of the first and last month of the year
- 8. 28 Concept of clock face being composed of 60 minutes
- 8. 29 Realization of fact that there are 60 minutes in an hour
- 8. 30 Realization that 30 minutes is a half-hour

- 8. 31 Realization that 15 minutes is a quarter-hour
- 8. 32 Ability to tell age to years and half years: Ex.10-1/2
- 8. 33 Ability to tell time by the quarter hour
- 8. 34 Realization that 6 months is a half year
- 8. 35 Realization that 3 months is a quarter year
- 8. 36 Concept of function of large hand of the clock
- 8. 37 Concept of function of small hand of the clock
- 8. 38 Relationship of small hand and large hand of the clock
- 8. 39 Ability to distinguish "to" and "after" as related to a clock face
- 8. 40 Ability to see that each number on clock represents five minutes
- 8. 41 Ability to see relationship between number 1 on face of clock and 5 minutes
- 8. 42 Relationship between January and first month of year
- 8. 43 Relationship of all months to their numerical order
- 8. 44 Ability to see relationship between numbers 1 to 12 on face of clock to corresponding 5, 10, 15-60 in telling time
- 8. 45 Ability to read clock by intervals of five minutes
- 8. 46 Ability to tell age to years and months
- 8. 47 Ability to see relationship between number 2 on clock face and 10 minutes
- 8. 48 Ability to read and use schedules of radio programs

MONEY AND MONEY TERMS

- 8. 49 Understanding of money value through 15 cents
- 8. 50 Relationship of 3 nickels to 15 cents
- 8. 51 Ability to make change of 15 cents with pennies and/or nickels
- 8. 52 Relationship of 20 cents to its equivalents in dimes, nickels, and pennies

Money and Money Terms cont.

- 8. 53 Ability to make change of 20 cents involving pennies, nickels, dimes
- 8. 54 Concept of the coin quarter
- 8. 55 Relationship of a quarter to its equivalents in dimes, nickels, and pennies
- 8. 56 Ability to make change of a quarter
- 8. 57 Concept of the coin half-dollar
- 8. 58 Relationship of a half-dollar to its equivalents in dimes, quarter, nickels, and pennies
- 8. 59 Understanding of money values through a half-dollar
- 8. 60 Ability to identify and write money using decimal notation up to \$1.00
- 8. 61 Concept of a dollar bill
- 8. 62 Relationship of a dollar to its equivalents
- 8. 63 Understanding of money values through one dollar
- 8. 64 Ability to make change up to one dollar
- 8. 65 Ability to read and interpret prices on menus
- 8. 66 Understanding of money value and ability to make change of five dollars (bill)
- 8. 67 Ability to subtract 4- and 5- place numbers as they occur in dollars and cents
- 8. 68 Ability to identify and write money using decimal notation up to \$9.99
- 8. 69 Understanding of money value and ability to make change of ten dollars (\$10 bill)
- 8. 70 Understanding of money value and ability to make change of 20 dollars (\$20 bill)
- 8. 71 Understanding of money value and ability to make change of fifty dollars (\$50 bill)
- 8. 72 Ability to identify and write money using decimal notation up to \$100.00
- 8. 73 Understanding of money and ability to make change of one hundred dollars (\$100 bill)

NUMBERS

Arithmetical terms

- 8. 74 Meaning of carrying in addition of two-place numbers
- 8. 75 Meaning of multiplication (as a short method of addition)

- 8. 76 Meaning of division as a measurement-relation to multiplication fact: How many 4's in 8? as reverse of two fours are 8
- 8. 77 Meaning of division algorithm

Number manipulation

- 8. 78 Ability to write three integers in a column from dictation
- 8. 79 Ability to write three two-place numbers in a column from dictation
- 8. 80 Ability to write three numbers of unequal length in columns from dictation - numbers not to exceed 99
- 8. 81 Ability to write two three-place numbers in columns from dictation
- 8. 82 Ability to write three three-place numbers in columns from dictation
- 8. 83 Ability to write three numbers of unequal length in columns from dictation - numbers not to exceed 99
- 8. 84 Ability to write more than three integers in a column from dictation

Addition

- 8. 85 Ability to add three numbers in a column - sum not to exceed 10
- 8. 86 Ability to add 6 and 6
- 8. 87 Ability to add 9 and 2; 2 and 9
- 8. 88 Ability to add 8 and 3; 3 and 8
- 8. 89 Ability to add 6 and 5; 5 and 6
- 8. 90 Ability to add 8 and 4; 4 and 8
- 8. 91 Ability to add 9 and 3; 3 and 9
- 8. 92 Ability to add 7 and 4; 4 and 7
- 8. 93 Ability to add 7 and 7
- 8. 94 Ability to add 7 and 5; 5 and 7
- 8. 95 Ability to add 8 and 8
- 8. 96 Ability to add 8 and 5; 5 and 8
- 8. 97 Ability to add 9 and 4; 4 and 9
- 8. 98 Ability to add 8 and 6; 6 and 8
- 8. 99 Ability to add 9 and 5; 5 and 9
- 8.100 Ability to add 7 and 6; 6 and 7
- 8.101 Mastery of addition combinations

with zeroes:

0 1 2 3 4 5 6 7 8 9

0 0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0 0

1 2 3 4 5 6 7 8 9

8. 102 Ability to add 9 and 6; 6 and 9
 8. 103 Ability to add 8 and 7; 7 and 8
 8. 104 Ability to add 9 and 7; 7 and 9
 8. 105 Ability to add 9 and 8; 8 and 9
 8. 106 Ability to add 9 and 9
 8. 107 Ability to add a visible sum
 (9 or less)

Ex: Oral

$$\begin{array}{r} 3 \\ 2 \\ \hline 2 \\ 5 \end{array}$$

Written

$$\begin{array}{r} 4 \\ 5 \end{array}$$

8. 108 Ability to add three numbers
 in columns with sums of first
 two not exceeding 9

8. 109 Ability to add in columns with
 zero as one of the addends

8. 110 Ability to do the higher decade
 combination sums not to exceed
 19: 10 12 14 16

$$\begin{array}{r} 2 \quad 2 \quad 2 \quad 2 \end{array}$$

8. 111 Ability to add three 1-place
 numbers in columns with sum of
 first two being equal to ten

8. 112 Ability to add an invisible two-
 place number

Ex: Oral

$$\begin{array}{r} 6 \\ 7 \\ \hline 13 \\ 5 \\ 9 \\ \hline 14 \end{array}$$

Written

$$\begin{array}{r} 2 \\ 4 \end{array}$$

8. 113 Ability to add two two-place
 numbers with sums not to ex-
 ceed 99 without carrying

8. 114 Ability to add three one-place
 numbers in columns with sum of
 first two exceeding 10 but with
 sum of the three not exceeding 19

8. 115 Ability to add with bridging
 11 12 13 16

$$\begin{array}{r} 9 \quad 8 \quad 8 \quad 6 \end{array}$$

8. 116 Ability to add three one-place
 numbers with sums exceeding 19

8. 117 Ability to add two-place numbers
 with carrying 1, sums not to
 exceed 99

8. 118 Ability to add two 2-place numbers
 with sums exceeding 99

8. 119 Ability to add four 2-place numbers
 in columns with sums of first three
 not to exceed 9

8. 120 Ability to add four 1-place numbers
 in columns with sums of first three
 being equal to 10

8. 121 Ability to do the higher de-
 cade combinations with sums
 exceeding 19 - without
 bridging

$$\begin{array}{r} 21 \quad 32 \quad 22 \\ 4 \quad 5 \quad 6 \end{array}$$

8. 122 Ability to do the higher de-
 cade combinations with
 bridging

$$\begin{array}{r} 23 \quad 34 \quad 42 \quad 54 \\ 8 \quad 7 \quad 9 \quad 7 \end{array}$$

8. 123 Ability to add two 2-place
 numbers with zeroes in units
 column

8. 124 Ability to add two 2-place
 numbers with a zero in the
 units column

8. 125 Ability to add three two-place
 numbers without carrying

8. 126 Ability to add three 2-place
 numbers "carrying" 1

8. 127 Ability to add three 2-place
 numbers "carrying" 2

8. 128 Ability to add three-place
 addends without carrying

8. 129 Ability to add three-place
 addends with carrying in
 from the first column only

8. 130 Ability to add three-place
 addends with carrying from
 both columns

8. 131 Ability to check answers in
 addition

8. 132 Ability to add three-place
 addends of unequal length
 without carrying

8. 133 Ability to add 5 numbers in
 columns

8. 134 Ability to add 6 numbers in
 columns

Subtraction

8. 135 Ability to sub. 6 from 12

8. 136 Ability to sub. 2 from 11;
 9 from 11

8. 137 Ability to sub 3 from 11;
 8 from 11

8. 138 Ability to sub 5 from 11;
 6 from 11

8. 139 Ability to sub. 4 from 12;
 8 from 12

8. 140 Ability to sub. 3 from 12;
 9 from 12

8. 141 Ability to sub. 4 from 11;
 7 from 11

Numbers cont.

8. 142 Ability to sub. 7 from 14
8. 143 Ability to sub. 5 from 12;
7 from 12
8. 144 Ability to sub. 8 from 16
8. 145 Ability to sub. 4 from 13;
8 from 13
8. 146 Ability to sub. 6 from 13;
9 from 13
8. 147 Ability to sub. 6 from 14;
8 from 14
8. 148 Ability to sub. 5 from 14;
9 from 14
8. 149 Ability to sub. 6 from 13;
7 from 13
8. 150 Ability to sub. 6 from 15;
9 from 15
8. 151 Ability to sub. 7 from 15;
8 from 15
8. 152 Ability to sub. 7 from 16;
9 from 16
8. 153 Ability to sub. 9 from 17;
8 from 17
8. 154 Mastery of subtraction combinations
with zeroes:
0 1 2 3 4 5 6 7 8 9
0 0 0 0 0 0 0 0 0 0
1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9
8. 155 Ability to sub. 9 from 18
8. 156 Ability to sub. a 2-place
number from a 2-place number
with the difference being a
2-place number (no borrowing)
8. 157 Ability to sub. a 2-place number
from a 2-place number with the
difference being a 1-place number
8. 158 Ability to sub. 2-place numbers
with a zero in the difference
8. 159 Ability to sub. 2-place numbers
with zero in the minuend
8. 160 Ability to sub. 2-place numbers
with zero in the subtrahend
8. 161 Ability to check answers in
subtraction
8. 162 Ability to sub. 2-place numbers
with zeroes in both minuend and
subtrahend
8. 163 Ability to sub. a 2-place number
from a 3-place number
8. 164 Ability to sub. 2-place numbers
from 2-place numbers with
carrying and with the differences
remaining a 2-place number

8. 165 Ability to sub. a 1-place
number from a 2-place
number without borrowing
8. 166 Ability to sub. from a 2-place
number with borrowing
8. 167 Ability to sub. a 3-place
number from a 3-place number
without borrowing - answer to
be a 3-place number
8. 168 Ability to sub. a 3-place
number from a 3-place number
with borrowing - answer to be
a 3-place number
8. 169 Meaning of $\frac{1}{2}$ of a 2-place
number - no carrying
8. 170 Ability to sub. a 3-place
number from a 3-place number
with borrowing from the hun-
dreds' column only, answer
being a 3-place number
8. 171 Ability to sub. a 3-place
number from a 3-place number
with the answer being a 2-
place number
8. 172 Ability to sub. a 3-place
number from a 3-place number
with the answer being a 1-
place number
8. 173 Ability to sub. a 3-place
number from a 3-place number
with borrowing from both the
tens' and hundreds' column,
answer being a 3-place number

Grouping

8. 174 Ability to group 14 objects
into 7 groups of 2 each; 2
of 7 each
8. 175 Ability to group 15 objects
into 3 groups of 5 each;
5 groups of 3 each
8. 176 Ability to group 16 objects
into 8 groups of 2 each;
4 groups of 4 each;
2 groups of 8 each
8. 177 Ability to group 18 objects
into 9 groups of 2 each;
6 groups of 3 each;
2 groups of 9 each

Multiplication

8. 178 Meaning of two 2's
8. 179 Meaning of two 5's; five 2's
8. 180 Meaning of two 8's, eight 2's

Numbers cont.

8. 181 Meaning of two 4's; four 2's.
 8. 182 Meaning of two 6's; six 2's
 8. 183 Meaning of two 3's; three 2's
 8. 184 Meaning of two 7's; seven 2's
 8. 185 Meaning of two 9's; nine 2's
 8. 186 Meaning of two 1's; one 2
 8. 187 Meaning of multiplication sign x
 8. 188 Ability to multiply $\begin{array}{r} 3 \\ \times 3 \end{array}$) Establish
 8. 189 Ability to multiply $\begin{array}{r} 4 \\ \times 4 \end{array}$) the gener-
 8. 190 Ability to multiply $\begin{array}{r} 5 \\ \times 5 \end{array}$) alization
 8. 191 Ability to multiply $\begin{array}{r} 4 \times 3; 3 \times 4 \\ \times 4 \quad \times 5 \end{array}$) that a
 8. 192 Ability to multiply $\begin{array}{r} 5 \times 3; 3 \times 5 \end{array}$) combina-
 8. 193 Ability to multiply $\begin{array}{r} 5 \quad 4 \\ \times 4 \quad \times 5 \end{array}$) tion and
 its re-
 verses
) yield same
) product
 8. 194 Ability to multiply $\begin{array}{r} 6 \times 3; 3 \times 6 \end{array}$)
 8. 195 Mastery of the multiplication
 and division facts: $\begin{array}{r} 3 \quad 3 \\ \times 3 \end{array}$) 9
 8. 196 Mastery of the multiplication
 and division facts: $\begin{array}{r} 4 \quad 4 \\ \times 4 \end{array}$) 16
 8. 197 Mastery of the multiplication
 and division facts: $\begin{array}{r} 5 \quad 5 \\ \times 5 \end{array}$) 25
 8. 198 Mastery of the multiplication
 and division facts:
 $\begin{array}{r} 4 \quad 3 \\ \times 3 \quad \times 4 \end{array}$ $\begin{array}{r} 4 \sqrt{12} \quad 3 \sqrt{12} \end{array}$
 8. 199 Mastery of the multiplication
 and division facts:
 $\begin{array}{r} 5 \quad 3 \\ \times 3 \quad \times 5 \end{array}$ $\begin{array}{r} 5 \sqrt{15} \quad 3 \sqrt{15} \end{array}$
 8. 200 Mastery of the multiplication
 and division facts:
 $\begin{array}{r} 5 \quad 4 \\ \times 4 \quad \times 5 \end{array}$ $\begin{array}{r} 5 \sqrt{20} \quad 4 \sqrt{20} \end{array}$
 8. 201 Mastery of the multiplication
 and division facts:
 $\begin{array}{r} 6 \quad 3 \\ \times 3 \quad \times 6 \end{array}$ $\begin{array}{r} 6 \sqrt{18} \quad 3 \sqrt{18} \end{array}$

Division

8. 202 Meaning of the number of 2's in 4
 8. 203 Meaning of the number of 5's in 10
 8. 204 Meaning of the number of 8's in 16
 8. 205 Meaning of the number of 4's in 8
 8. 206 Meaning of the number of 6's in 12

8. 207 Meaning of the number of
 2's in 10
 8. 208 Meaning of the number of
 2's in 16
 8. 209 Meaning of the number of
 2's in 12
 8. 210 Mastery of the division
 combination and
 reverses:

$$\begin{array}{r} 2 \overline{)4} \quad 5 \overline{)10} \quad 8 \overline{)16} \quad 4 \overline{)8} \\ 6 \overline{)12} \quad 3 \overline{)6} \quad 2 \overline{)10} \quad 2 \overline{)16} \quad 2 \overline{)8} \\ 2 \overline{)12} \quad 2 \overline{)6} \quad 7 \overline{)14} \quad 9 \overline{)18} \quad 2 \overline{)2} \\ 2 \overline{)18} \quad 1 \overline{)2} \end{array}$$

COMMERCIAL TERMS

8. 210 Concept of bank account

LENGTH AND DISTANCE

- 9. 1 Concept of depth
- 9. 2 Concept of a tape measure
- 9. 3 Reading and understanding of a tape measure
- 9. 4 Concept of an eighth-inch
- 9. 5 Concept of a sixteenth-inch
- 9. 6 Concept of a speedometer
- 9. 7 Concept of a mile

OTHER MEASUREMENTS

- 9. 8 Concept of ounce
- 9. 9 Concept of per
 - a. Miles per gallon
 - b. Miles per hour
 - c. per pound
 - d. per foot
- 9.10 Meaning of $1/16$ in using a ruler
- 9.11 Concept of fifty pounds
- 9.12 Concept of 100 pounds
- 9.13 Concept of ton

AMOUNT - FRACTIONS

- 9. 14 Ability to identify and write the fractions $1/2$ and $1/4$
- 9. 15 Meaning of $1/8$
- 9. 16 Ability to identify and write the fractions $1/8$, $1/16$, $1/3$, and $1/5$
- 9. 17 Ability to identify and write the fractions $3/4$, $2/3$, $3/8$, $5/8$, $3/16$, $5/16$, $7/8$, $7/16$

TIME AND RELATED AREA

- 9. 18 Ability to see that each mark on clock represents 1 minute
- 9. 19 Concept of seconds
- 9. 20 Realization that 60 seconds are same as one minute
- 9. 21 Ability to tell time by hours and minutes (2:55)
- 9. 22 Ability to read school program in relation to time
- 9. 23 Ability to read a radio page in relation to time
- 9. 24 Ability to set an alarm clock
- 9. 25 Concept of word per
 - a. per hour
 - b. per day
 - c. per week
 - d. per month
 - e. per year

- 9. 26 Ability to tell the number of weeks in a year
- 9. 27 Ability to tell the number of days in a year
- 9. 28 Recognition of fact that months vary in number of days
- 9. 29 Understanding of work annual
- 9. 30 Understanding of work semi-annual
- 9. 31 Concept of Leap Year
- 9. 32 Concept of daylight saving time
- 9. 33 Concept of 12 hours

NUMBERS

Arithmetical terms

- 9. 34 Concept of word per
- 9. 35 Understanding of word quarterly

Multiplication and division

- 9. 36 Mastery of the multiplication and division facts:

$$\begin{array}{r} 6 \quad 4 \\ \times 4 \quad \times 6 \quad 4 \overline{)24} \quad 6 \overline{)24} \end{array}$$

- 9. 37 Mastery of the multiplication and division facts:

$$\begin{array}{r} 7 \quad 5 \\ \times 5 \quad \times 7 \quad 7 \overline{)35} \quad 5 \overline{)35} \end{array}$$

- 9. 38 Mastery of the multiplication and division facts:

$$\begin{array}{r} 6 \quad 5 \\ \times 5 \quad \times 6 \quad 6 \overline{)30} \quad 5 \overline{)30} \end{array}$$

- 9. 39 Mastery of the multiplication and division facts:

$$\begin{array}{r} 8 \quad 5 \\ \times 5 \quad \times 8 \quad 8 \overline{)40} \quad 5 \overline{)40} \end{array}$$

- 9. 40 Mastery of the multiplication and division facts:

$$\begin{array}{r} 7 \quad 3 \\ \times 3 \quad \times 7 \quad 7 \overline{)21} \quad 3 \overline{)21} \end{array}$$

- 9. 41 Mastery of the multiplication and division facts:

$$\begin{array}{r} 7 \quad 4 \\ \times 4 \quad \times 7 \quad 4 \overline{)28} \quad 7 \overline{)28} \end{array}$$

- 9. 42 Mastery of the multiplication and division facts:

$$\begin{array}{r} 8 \quad 3 \\ \times 3 \quad \times 8 \quad 3 \overline{)24} \quad 8 \overline{)24} \end{array}$$

- 9. 43 Mastery of the multiplication and division facts:

$$\begin{array}{r} 8 \quad 4 \\ \times 4 \quad \times 8 \quad 4 \overline{)32} \quad 8 \overline{)32} \end{array}$$

- 9. 44 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 3 \\ \times 3 \quad \times 9 \quad 3 \overline{)27} \quad 9 \overline{)27} \end{array}$$

Numbers cont.

9. 45 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 4 \\ \underline{x4} \quad \underline{x9} \quad 4 \overline{)36} \quad 9 \overline{)36} \end{array}$$

9. 46 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 5 \\ \underline{x5} \quad \underline{x9} \quad 5 \overline{)45} \quad 9 \overline{)45} \end{array}$$

9. 47 Mastery of the multiplication and division facts:

$$\begin{array}{r} 5 \quad 1 \\ \underline{x1} \quad \underline{x5} \quad 1 \overline{)5} \quad 5 \overline{)5} \end{array}$$

9. 48 Mastery of the multiplication and division facts:

$$\begin{array}{r} 7 \quad 1 \\ \underline{x1} \quad \underline{x7} \quad 1 \overline{)7} \quad 7 \overline{)7} \end{array}$$

9. 49 Mastery of the multiplication and division facts:

$$\begin{array}{r} 4 \quad 1 \\ \underline{x1} \quad \underline{x4} \quad 1 \overline{)4} \quad 4 \overline{)4} \end{array}$$

9. 50 Mastery of the multiplication and division facts:

$$\begin{array}{r} 8 \quad 1 \\ \underline{x1} \quad \underline{x8} \quad 1 \overline{)8} \quad 8 \overline{)8} \end{array}$$

9. 51 Mastery of the multiplication and division facts:

$$\begin{array}{r} 3 \quad 1 \\ \underline{x1} \quad \underline{x3} \quad 1 \overline{)3} \quad 3 \overline{)3} \end{array}$$

9. 52 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 1 \\ \underline{x1} \quad \underline{x9} \quad 1 \overline{)9} \quad 9 \overline{)9} \end{array}$$

9. 53 Mastery of the multiplication and division facts:

$$\begin{array}{r} 1 \\ \underline{x1} \quad 1 \overline{)1} \end{array}$$

9. 54 Mastery of the multiplication and division facts:

$$\begin{array}{r} 6 \\ \underline{x6} \quad 6 \overline{)36} \end{array}$$

9. 55 Mastery of the multiplication and division facts:

$$\begin{array}{r} 7 \quad 6 \\ \underline{x6} \quad \underline{x7} \quad 6 \overline{)42} \quad 7 \overline{)42} \end{array}$$

9. 56 Mastery of the multiplication and division facts:

$$\begin{array}{r} 7 \\ \underline{x7} \quad 7 \overline{)49} \end{array}$$

9. 57 Mastery of the multiplication and division facts:

$$\begin{array}{r} 8 \quad 6 \\ \underline{x6} \quad \underline{x8} \quad 8 \overline{)48} \quad 6 \overline{)48} \end{array}$$

9. 58 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 6 \\ \underline{x6} \quad \underline{x9} \quad 6 \overline{)54} \quad 9 \overline{)54} \end{array}$$

9. 59 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 7 \\ \underline{x7} \quad \underline{x9} \quad 7 \overline{)63} \quad 9 \overline{)63} \end{array}$$

9. 60 Mastery of the multiplication and division facts:

$$\begin{array}{r} 8 \\ \underline{x8} \quad 8 \overline{)64} \end{array}$$

9. 61 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \quad 8 \\ \underline{x8} \quad \underline{x9} \quad 8 \overline{)72} \quad 9 \overline{)72} \end{array}$$

9. 62 Mastery of the multiplication and division facts:

$$\begin{array}{r} 9 \\ \underline{x9} \quad 9 \overline{)81} \end{array}$$

Multiplication

9. 63 Introduction of equation forms
 $x = 2 \times 5 = 10$

9. 64 Ability to multiply a 2-place number with two places in the product

$$11 \times 2 \quad 21 \times 2$$

9. 65 Ability to multiply a 2-place number by a 1-place number with 3 places in product

$$21 \times 5 \quad 81 \times 7$$

9. 66 Ability to multiply zero by a number. (present principle that any number multiplied by zero gives zero)

9. 67 Ability to multiply a 2-place number by a 1-place number with carrying

$$65 \times 2 \quad 46 \times 3$$

9. 68 Ability to multiply a 3-place number by a number without carrying

$$111 \times 2 \quad 112 \times 2$$

9. 69 Ability to multiply a 3-place number by a number with carrying from units' column only

$$923 \times 4 \quad 236 \times 2$$

9. 70 Ability to multiply a 3-place number by a number with carrying from tens' column only

$$251 \times 2 \quad 342 \times 3$$

Numbers cont.

Multiplication

9. 71 Ability to multiply a 3-place number by a number with carrying from units' and tens' column
 356×2 267×3
9. 72 Ability to multiply a 3-place number with a zero in the ten's column by a 1-place number
 204×2 503×2
9. 73 Ability to multiply a 2-place number with zeroes in the ten's and unit's column
 200×3

Division

9. 74 Ability to divide examples having 2 digit quotients with the divisor contained in the first digit of dividend (no remainder)
 $3 \overline{) 30}$ $2 \overline{) 28}$ $4 \overline{) 48}$
9. 75 Ability to divide examples having 3-place quotients with the divisor contained in the first digit of dividend
 $3 \overline{) 363}$ $2 \overline{) 246}$ $4 \overline{) 484}$
9. 76 Ability to divide examples having 2- and 2-place quotients with 2 places of dividend (no remainder)
 $3 \overline{) 126}$ $4 \overline{) 248}$
9. 77 Ability to determine by inspection the quotient figure when the divisor is not evenly contained in the dividend

Divisor	Smallest	Largest (Dividend)
2	3	19
3	4	29
4	5	39
5	6	49
6	7	59
7	8	69
8	9	79
9	10	89

9. 78 Ability to determine by inspection the remainder when the divisor is not evenly contained in the dividend.
9. 79 Ability to divide examples having 1-place quotients and remainders using the long division form

$$\begin{array}{r} 5 \\ 2 \overline{) 11} \\ \underline{10} \\ 1 \end{array}$$

9. 80 Ability to divide examples having 2-place quotients with carrying and no remainders using long division form
9. 81 Ability to divide examples having 3-place quotients with carrying in both steps with no remainders
 $4 \overline{) 2532}$
9. 82 Ability to divide examples having 3-place quotients with carrying in first step only, no remainders

Division

9. 83 Ability to divide examples having 3-place quotients with carrying in second step only, no remainders
 $8 \overline{) 1696}$
9. 84 Ability to divide examples having 2-place quotients with carrying and a remainder
 $4 \overline{) 175}$
9. 85 Ability to divide examples 4-place quotients with carrying and a remainder
 $8 \overline{) 1699}$
9. 86 Ability to divide examples with zero at end of quotient, no remainder
9. 87 Ability to divide examples with zero at end of quotient and a remainder
9. 88 Ability to divide examples having zero in the midst of the quotient
9. 89 Ability to divide examples having zero in the midst of the quotient and a remainder.

COMMERCIAL TERMS

9. 90 Concept of C.O.D.
9. 91 Concept of cash - cash payment
9. 92 Concept of down payment
9. 93 Concept of installment
9. 94 Concept of check as used in a restaurant
9. 95 Concept of tax
- a. sales tax
 - b. income tax
 - c. luxury tax
 - d. gasoline tax
 - e. admission tax
 - f. real estate tax

Numbers cont.

PRACTICAL USES OF ARITHMETIC

- 9. 96 Ability to read and use a recipe
- 9. 97 Ability to use the dial telephone
- 9. 98 Ability to read, write and use telephone numbers
- 9. 99 Ability to read and interpret bills
 - a. gas
 - b. electricity
 - c. telephone
 - d. insurance premium

M.A. 10.0 - 11.0

LENGTH AND DISTANCE

- 10. 1 Ability to describe the relationship of 6 inches to a foot as a fractional term
- 10. 2 Estimating lengths
- 10. 3 Concept of tenth of mile
Area
- 10. 4 Concept of square inch, square foot, square yard

OTHER MEASUREMENTS

- 10. 5 Concept of pressure gauge (in relationship to air pressure in gas station)
- 10. 6 Recognition of a variety of thermometers
- 10. 7 Concept of degree as used in thermometer readings
- 10. 8 Concept of boiling point
- 10. 9 Concept of freezing point
- 10. 10 Recognition of 32° F as freezing point
- 10. 11 Concept of watt, 10, 25, 40, 60, 75, 100

AMOUNT - FRACTIONAL TERMS

- 10. 12 Ability to describe the relationship of a pint to a quart
- 10. 13 Ability to describe the relationship of a glassful to pint as a fractional term.
- 10. 14 Ability to describe the relationship of a quart to a gallon as a fractional term
- 10. 15 Ability to describe the relationship of a quarter to a dollar as a fractional term
- 10. 16 Ability to describe the relationship of two quarters to a dollar as a fractional term
- 10. 17 Ability to describe the relationship of a dime to a dollar as a fractional term
- 10. 18 Ability to describe the relationship of 6 inches to a foot as a fractional term
- 10. 19 Ability to describe the relationship of 6 months to a year as a fractional term
- 10. 20 Ability to compare easy fractions -- $1/2 = 2/4$ etc.

TIME AND RELATED AREAS

10. 21 Translating dates to numerical form, as 1/14/53
Related to work
10. 22 Concept of overtime
10. 23 Understanding of overtime
10. 24 Understanding of time and a half
10. 25 Concept of double time

MONEY AND MONEY TERMS

10. 26 Ability to read a check
10. 27 Concept of a check
10. 28 Understanding of writing a check
10. 29 Understanding a postal note
10. 30 Understanding of a postal money order
10. 31 Ability to read a money order
10. 32 Understanding of a traveller's cheque
10. 33 Understanding of an American Express money order
10. 34 Ability to identify money using decimal notation through thousands of dollars

NUMBERS

Arithmetical terms and symbols

10. 35 Meaning of partial product in multiplying by 2-place multipliers
10. 36 Concept of thermometer
10. 37 Understanding of symbol for degree °
10. 38 Concept of percent
10. 39 Concept of diameter in relationship to pipes, fittings, 1 in. pipe, $\frac{1}{2}$ in. pipe, etc.
10. 40 Meaning of terms denominator and numerator
10. 41 Sign of percent %

Multiplication

10. 42 Ability to multiply 2-place multiplicands by 2-place multipliers
10. 43 Ability to multiply 3-place multiplicands by 2-place multipliers
10. 44 Ability to multiply by a 2-place number the second of which is zero (Use the "bring down" form)
10. 45 Ability to use the short form of multiplying by 10 (to multiply by 10, annex 0)
10. 46 Ability to use the short form of multiplying by 100

10. 47 Ability to multiply by a three place number
10. 48 Ability to multiply by a three-place number with zero in the middle position (no zeroes in the partial product)
10. 49 Ability to multiply by a three-place number, the third of which is zero
346
x120

Division

10. 50 Ability to divide examples having 2-place divisors with zero in divisor with trial divisor contained exactly in first number of dividend and without remainder: 20)80
10. 51 Ability to divide examples having 2-place divisors with zero in divisor, with trial divisor contained exactly in dividend first number with remainder
Ex. 20)84
10. 52 Ability to divide examples having 2-place divisors with zero in divisor, with trial divisor contained in first two numbers of dividend, with and without remainders: 20)124
10. 53 Ability to divide examples having 2-place divisors with trial zero in divisor, with trial divisor not contained exactly in first number of dividend, with and without remainders: 20)92
10. 54 Ability to divide examples having two divisors, with divisor ending in 1, trial quotient correct and contained exactly in first number of dividend, with no remainder: 11)44
10. 55 Ability to divide examples having two divisors with divisor ending in 1, trial quotient correct and contained exactly in first number of dividend and with remainders 11)46

Numbers cont.

- 10.57 Ability to divide examples having two-place divisors ending in 2, trial quotient correct and contained exactly in first number of dividend, and no remainder:
 $12 \overline{)24}$ $22 \overline{)44}$
- 10.58 Ability to divide examples having 2-place divisors ending in 2, trial quotient correct and contained exactly in the first number of dividend and with remainders:
 $12 \overline{)28}$ $22 \overline{)48}$
- 10.59 Ability to divide examples having 2-place divisors ending in 2, trial quotient correct and not contained exactly in first number of dividend, with and without remainders: $22 \overline{)59}$
- 10.60 Ability to divide examples having 2-place divisor ending in 1, with trial quotient incorrect and no zeroes in quotient:
 $12 \overline{)336}$ $22 \overline{)642}$
- 10.61 Ability to divide examples having 2-place divisor ending in 2, with trial quotient incorrect, no zeroes in quotient: $12 \overline{)336}$
- 10.62 Ability to divide examples having 2-place divisors ending in 9 or 8, trial quotients correct, no zeroes in quotients, with and without remainders (use the "increase-by-one" method for finding trial divisors) Ex: $48 \overline{)2576}$
- 10.63 Ability to divide examples having 2-place divisors ending in 9 or 8, trial quotients incorrect, no zeroes in quotients, with and without remainders
- 10.64 Ability to divide examples with other 2-digit divisors ending in 3, 4, 5, 6 and 7, trial quotients correct, with and without remainders, no zeroes in quotients
 $23 \overline{)736}$ $34 \overline{)714}$ $35 \overline{)846}$
- 10.65 Ability to divide examples with other 2-place divisors ending in 3, 4, 5, 6, and 7, trial quotients incorrect with and without remainders, no zeroes in quotient:
 $16 \overline{)828}$ $25 \overline{)987}$

10. 56 Ability to divide examples having two divisors with divisor ending in 1, trial quotient not contained exactly in first number of dividend, with and without remainders:
 $11 \overline{)57}$
10. 66 Ability to divide examples with any 2-place divisor, zero at end of quotient, and no remainder: $21 \overline{)987}$
10. 67 Ability to divide examples with any 2-place divisor, zero at end of quotient, with remainder: $21 \overline{)637}$
10. 68 Ability to divide examples with any 2-place divisor, zero in midst of quotient
 $15 \overline{)345}$
10. 69 Ability to divide example with 3-place divisor

Fractions - addition

10. 70 Ability to add fractions of like denominations, sum less than denominator (limited) to fractions already taught
10. 71 Ability to add fractions of like denominators, sum larger than denominator
10. 72 Ability to add fractions of unlike denominators, sum less than common denominator (Limited to fractions taught)
10. 73 Ability to add fractions of unlike denominators, sum larger than common denominator

Fractions - subtraction

10. 74 Ability to subtract common fractions, denominators alike (limited to fractions taught)
- 10, 75 Ability to subtract common fractions, denominators not alike (limited to fractions taught)

Numbers cont.

Mixed numbers

10. 76 Ability to change improper fractions to mixed numbers
10. 77 Ability to identify and write mixed numbers using only those fractions previously taught
10. 78 Ability to add mixed numbers; denominators alike with sum of the fractions less than denominator (limited to fractions taught)
10. 79 Ability to add mixed numbers; denominators alike with sum of the fractions greater than denominator (limited to fractions taught)
10. 80 Ability to add mixed numbers; denominators unlike with sum of fractions greater than common denominator, (carrying) not more than 3 addends to a column (limited to fractions taught)
10. 81 Ability to add mixed numbers; denominators unlike with sums of fractions less than common denominator (limited to fractions taught)
10. 82 Ability to subtract an integer from a mixed number:
$$\begin{array}{r} 7\frac{1}{2} \\ - 5 \\ \hline \end{array}$$
10. 83 Ability to subtract a mixed number from an integer:
$$\begin{array}{r} 10 \\ - 4\frac{1}{2} \\ \hline \end{array}$$
10. 84 Ability to subtract mixed numbers, denominators alike, with borrowing (limited to fractions taught)
10. 85 Ability to subtract mixed numbers denominators alike, without borrowing (limited to fractions taught)
10. 86 Ability to subtract mixed numbers, denominators not alike, without borrowing (limited to fractions taught)

Percent - decimal - fraction

10. 87 Ability to find a percent of a number (to be limited to the percents common to everyday living - as 2% interest on saving; 10% off; percent for budgeting

10. 88 Change % to decimal
10. 89 Changing decimals to fractions and to percent
10. 90 Changing fractions to decimals
10. 91 Changing fractions to percent $\frac{1}{4} = 25\%$
10. 92 Finding what percent one number is of another
10. 93 Finding a percent of a number

COMMERCIAL TERMS

10. 94 Meaning of postal note
10. 95 Meaning of postal money order
10. 96 Meaning of traveller's cheque
10. 97 Meaning of American Express money order
10. 98 Concept of interest

PRACTICAL USES OF ARITHMETIC

10. 99 Ability to read thermometers
- a. Regular outdoor-in door
- b. Oven
- c. Icebox
- d. Fever
- e. Meat
- f. Candy
- 10.100 Recognition and understanding of 200° to 300° as a low oven
- 10.101 Recognition and understanding of 325° to 375° as a moderate oven
- 10.102 Recognition and understanding of 400° to 450° as a hot oven
- 10.103 Ability to read a time table
- 10.104 Ability to read and interpret bus and train schedules

